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Sarcopenic Obesity Evaluation and Management in Primary Care: A Narrative Review

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ABSTRACT

Sarcopenic obesity, the coexistence of excess adiposity and impaired skeletal muscle mass, strength, and physical performance, is increasingly prevalent due to population aging and the global obesity epidemic. It carries a disproportionate burden of adverse outcomes—including frailty, falls, disability, cardiometabolic disease, reduced quality of life, and mortality—yet remains under-recognized in primary care, where reliance on body mass index can mask abnormal body composition and functional decline. This narrative review synthesizes contemporary evidence to clarify evolving definitions and conceptual frameworks of sarcopenic obesity and to summarize key biological mechanisms linking adiposity to muscle dysfunction, including chronic low-grade inflammation, insulin resistance, hormonal changes, inactivity, and suboptimal protein intake. We highlight the epidemiology and clinical consequences most relevant to primary care populations and propose pragmatic approaches to case-finding and evaluation emphasizing feasible functional measures (e.g., grip strength, gait speed, chair rise performance) alongside anthropometry and, where available, bioelectrical impedance analysis, with dual-energy X-ray absorptiometry reserved for confirmatory assessment or specialist pathways. Management is reviewed through a primary-care lens, underscoring multimodal lifestyle intervention—resistance training combined with adequate dietary protein and cautious energy restriction—as the therapeutic foundation, supported by optimization of multimorbidity care, medication review, and coordinated referral to dietetic and rehabilitation services. Integrating these components into routine primary care may enable earlier recognition and more effective prevention of downstream functional and metabolic complications.

Keywords: *Sarcopenic obesity, Primary care, Sarcopenia, Obesity, Body composition, Resistance training*

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INTRODUCTION

The global burden of obesity and age-related functional decline has increased substantially over the past decades, creating a convergence of conditions that challenge traditional disease classifications. Sarcopenic obesity represents one such convergence, defined by the coexistence of excess fat mass and sarcopenia—an age-associated loss of skeletal muscle mass, strength, and physical performance (Donini *et al*., 2020). Unlike sarcopenia or obesity alone, sarcopenic obesity reflects a complex interaction between metabolic, inflammatory, hormonal, and behavioral factors that synergistically exacerbate functional impairment and cardiometabolic risk.

From a clinical perspective, sarcopenic obesity is particularly relevant to primary care. Primary care practitioners (PCPs) are

often the first point of contact for older adults and individuals with obesity-related comorbidities, positioning them to identify early functional decline and implement preventive strategies. However, sarcopenic obesity frequently goes unrecognized in routine care. Body mass index (BMI), the most commonly used anthropometric measure in primary care, fails to capture alterations in body composition and may mask the presence of low muscle mass in individuals with obesity (Prado *et al*., 2021). As a result, patients with sarcopenic obesity may be misclassified as having "simple" obesity, delaying appropriate interventions.

Recent years have seen increasing scholarly attention to sarcopenic obesity, including consensus efforts to harmonize definitions and diagnostic criteria (Atkins *et al*., 2020; Batsis & Villareal, 2021). Nevertheless, heterogeneity persists across studies, and translation of research concepts into primary care practice remains limited. PCPs face practical barriers such as time constraints, limited access to dual-energy X-ray absorptiometry (DXA) or bioelectrical impedance analysis (BIA), and uncertainty regarding optimal management pathways.

The objective of this narrative review is to critically synthesize recent evidence on sarcopenic obesity with a focus on evaluation and management in primary care. Specifically, this review aims to (i) describe current conceptual frameworks and pathophysiological mechanisms, (ii) summarize epidemiology and clinical consequences relevant to primary care populations, (iii) discuss practical approaches to screening and diagnosis in routine practice, and (iv) review evidence-based management strategies applicable in primary care settings. By doing so, the review seeks to bridge the gap between emerging research and everyday clinical care.

Conceptual framework and definitions of sarcopenic obesity

Sarcopenic obesity has evolved from a descriptive concept into a clinically relevant condition with distinct prognostic implications. Early studies variably defined sarcopenic obesity based on combinations of low muscle mass and high fat mass, often using study-specific cutoffs (Donini *et al*., 2020). This heterogeneity limited comparability and hindered clinical adoption.

More recently, expert groups have proposed operational frameworks to standardize definitions. Contemporary approaches emphasize not only muscle quantity but also muscle strength and physical performance, aligning with updated sarcopenia definitions (Atkins *et al*., 2020). Obesity is similarly redefined beyond BMI to include excess or dysfunctional adiposity, often assessed via body fat percentage or waist circumference (Batsis & Villareal, 2021). These developments underscore the multidimensional nature of sarcopenic obesity, integrating structural, functional, and metabolic domains. Sarcopenic obesity can be conceptualized as a multidimensional condition integrating adiposity, muscle impairment, and functional decline, with bidirectional biological and clinical interactions **(Figure 1)**.

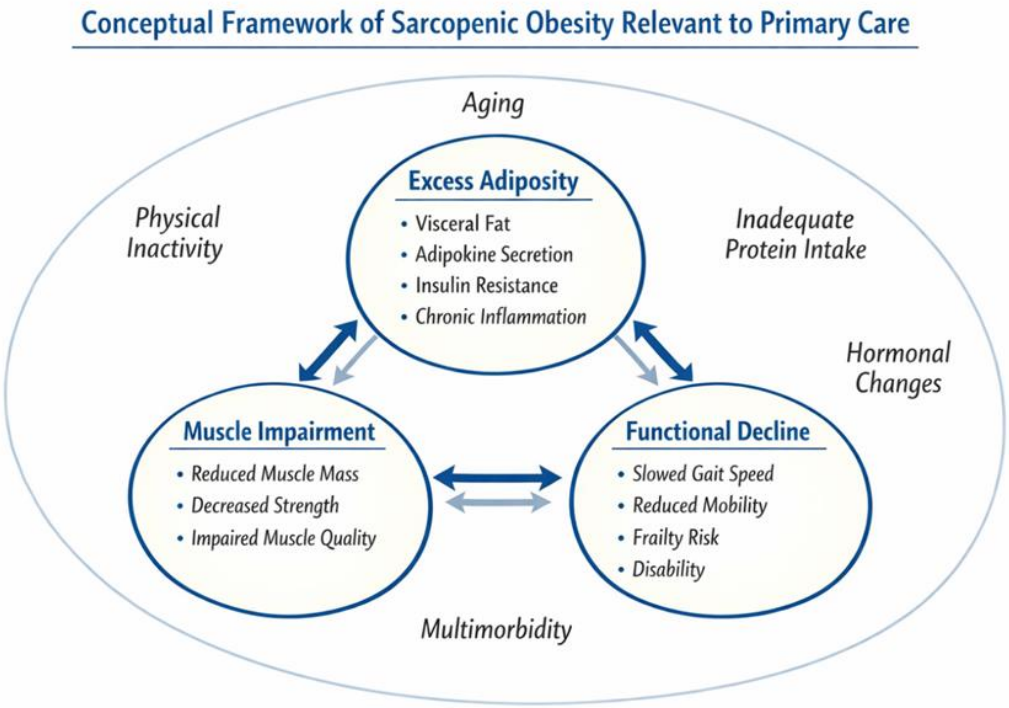

Figure 1. Conceptual Model of Sarcopenic Obesity in Primary Care

For primary care, these conceptual shifts have practical implications. While advanced imaging may not be routinely available, the emphasis on functional measures such as grip strength and gait speed provides feasible entry points for assessment. Understanding sarcopenic obesity as a spectrum rather than a binary diagnosis may also facilitate earlier intervention. Key components and evolving definitions of sarcopenic obesity proposed in recent consensus frameworks

are summarized in **Table 1**.

Table 1. Definitions and Diagnostic Components of Sarcopenic Obesity

Component	Description	Primary Care Relevance
Sarcopenia	Low muscle mass with reduced strength and/or physical performance	Functional tests feasible in clinic
Obesity	Excess or dysfunctional adiposity beyond BMI	Waist circumference preferred
Muscle Mass	Quantity of skeletal muscle	Limited access; BIA/DXA when available
Muscle Strength	Grip strength, lower limb power	High prognostic value
Physical Performance	Gait speed, chair rise, balance	Directly observable
Clinical Emphasis	Functional impairment and risk	Actionable in primary care

Pathophysiology and biological mechanisms

Sarcopenic obesity arises from a complex interplay between excess adiposity and progressive skeletal muscle dysfunction, in which each condition amplifies the other through shared biological pathways. Adipose tissue in obesity is no longer a passive energy store but an active endocrine and inflammatory organ. Expansion of visceral and ectopic fat depots promotes chronic low-grade systemic inflammation via dysregulated adipokine secretion and immune cell infiltration, particularly macrophage polarization toward pro-inflammatory phenotypes. Elevated circulating cytokines, including interleukin-6 and tumor necrosis factor-α, contribute directly to muscle protein breakdown, mitochondrial dysfunction, and impaired myocyte regeneration, ultimately accelerating declines in muscle strength and physical performance (Kohara, 2020; Cruz-Jentoft & Sayer, 2023).

Insulin resistance represents a central mechanistic bridge linking obesity and sarcopenia. Skeletal muscle is the principal site of postprandial glucose disposal, and age-related loss of muscle mass reduces insulin sensitivity at the whole-body level. Conversely, obesity-related insulin resistance blunts anabolic signaling pathways, including the insulin–AKT–mTOR axis, thereby impairing muscle protein synthesis even in the presence of adequate caloric intake (Dent *et al*., 2021). This bidirectional relationship creates a self-perpetuating cycle in which declining muscle mass worsens metabolic dysfunction, further accelerating muscle loss.

Endocrine alterations associated with aging and obesity further exacerbate adverse body composition changes. Declines in anabolic hormones such as growth hormone, testosterone, and estrogen reduce muscle regenerative capacity and favor fat accumulation, particularly in postmenopausal women (Mijnarends *et al*., 2020). Concurrently, increases in cortisol and myostatin activity may promote muscle catabolism and inhibit hypertrophic responses to mechanical loading.

Behavioral and nutritional factors amplify these biological vulnerabilities. Physical inactivity is both a cause and consequence of sarcopenic obesity; excess body weight increases mechanical burden and joint pain, reducing mobility and leading to disuse-related muscle atrophy. Dietary patterns commonly observed in older adults with obesity—characterized by energy excess but inadequate protein quantity or quality—may fail to meet the anabolic threshold required for muscle maintenance, particularly in the context of anabolic resistance (Cesari *et al*., 2020). These converging mechanisms underscore why unstructured weight-loss interventions can inadvertently worsen sarcopenia if muscle-preserving strategies are not explicitly incorporated.

Epidemiology and burden in primary care populations

Reported prevalence estimates for sarcopenic obesity vary widely, reflecting heterogeneity in diagnostic criteria, measurement techniques, and study populations. Recent population-based studies suggest prevalence rates ranging from approximately 5% to over 20% among older adults, with substantially higher estimates in individuals with cardiometabolic disease, physical disability, or frailty (Kalinkovich & Livshits, 2020; Kim & Choi, 2020). In primary care settings, the true burden is likely underestimated, as routine assessments typically emphasize body mass index rather than muscle strength, physical performance, or body composition.

Sarcopenic obesity confers a disproportionate risk of adverse outcomes compared with sarcopenia or obesity alone. Epidemiological evidence links the condition to higher rates of falls, mobility disability, loss of independence, type 2 diabetes, cardiovascular disease, and all-cause mortality (Mesinovic *et al*., 2020; Kalyani *et al*., 2021). From a primary care perspective, sarcopenic obesity is also associated with increased healthcare utilization, poorer response to standard lifestyle counseling, and reduced effectiveness of conventional weight-loss programs (Dodds *et al*., 2020).

Prevalence and clinical expression are influenced by sex, ethnicity, and socioeconomic context. Women—particularly after menopause—appear to be at heightened risk due to hormonal changes, differences in fat distribution, and longer life expectancy (Stephen & Janssen, 2021). Social determinants of health, including food insecurity, limited access to safe exercise environments, and disparities in preventive care, further shape the risk profiles encountered in primary care populations and contribute to under-recognition of the condition.

Clinical consequences and comorbidity interactions

The clinical impact of sarcopenic obesity extends well beyond musculoskeletal impairment. The coexistence of reduced muscle mass and excess adiposity amplifies cardiometabolic risk through worsening insulin resistance, adverse lipid profiles, and persistent systemic inflammation (Dent *et al*., 2021; Kalyani *et al*., 2021). Functional limitations reduce patients' capacity to engage in physical activity, reinforcing a downward spiral of inactivity, further muscle loss, and increasing adiposity.

Frailty represents a particularly important overlapping syndrome. Sarcopenic obesity is increasingly recognized as a distinct contributor to frailty trajectories, with implications for falls, hospitalization, institutionalization, and mortality (Argilés *et al*., 2020). In primary care, where multimorbidity is the norm rather than the exception, sarcopenic obesity may complicate management of chronic conditions such as osteoarthritis, heart

failure, chronic obstructive pulmonary disease, and type 2 diabetes by limiting exercise tolerance and impairing treatment adherence.

Psychosocial consequences are also substantial. Declining mobility and physical performance can lead to loss of independence, social withdrawal, depressive symptoms, and reduced health-related quality of life (DeFronzo & Tripathy, 2022). These multidimensional consequences reinforce the need for holistic, patient-centered management strategies that extend beyond weight reduction alone.

Screening and case-finding in primary care

Given time and resource constraints, universal screening for sarcopenic obesity in primary care is unlikely to be practical. Instead, targeted case-finding approaches are recommended. High-risk groups include older adults with obesity, individuals reporting unintentional functional decline, recurrent falls, fatigue, or poor response to weight-loss interventions, as well as those with multiple cardiometabolic comorbidities (Atkins *et al*., 2020; Morley, 2020).

Simple, validated functional measures can support initial assessment. Handgrip strength measured with a dynamometer is inexpensive, quick to perform, and strongly predictive of disability and mortality (Ekelund *et al*., 2020). Gait speed and chair rise tests provide complementary information on lower-extremity function and overall physical performance. Anthropometric measures such as waist circumference may better capture adiposity-related risk than BMI alone, particularly in older adults (Villareal *et al*., 2020).

When available, bioelectrical impedance analysis offers a pragmatic balance between feasibility and informational value for estimating body composition in primary care, although results should be interpreted cautiously in the context of hydration status and device variability (Beaudart *et al*., 2022). Dual-energy X-ray absorptiometry remains the reference standard but is typically restricted to specialist settings. Importantly, screening should be viewed as an iterative and contextual process, integrating functional assessments, clinical history, and longitudinal observation rather than relying on a single diagnostic cutoff. Commonly used screening tools and diagnostic approaches for sarcopenic obesity, along with their feasibility and limitations in primary care, are summarized in **Table 2**.

Table 2. Screening Tools and Diagnostic Modalities for Sarcopenic Obesity in Primary Care

Tool / Measure	What It Assesses	Feasibility in Primary Care	Key Limitations
BMI	General adiposity	High	Masks muscle loss
Waist circumference	Central adiposity	High	No muscle information
Grip strength	Muscle strength	High	Requires dynamometer
Gait speed	Physical performance	High	Space needed
Chair rise test	Lower limb function	High	Influenced by joint disease
BIA	Body composition estimate	Moderate	Affected by hydration
DXA	Gold standard composition	Low	Cost, access

Diagnostic considerations and challenges

Diagnosis of sarcopenic obesity requires confirmation of both sarcopenia and obesity according to accepted criteria. Recent consensus statements emphasize a stepwise approach, beginning with suspicion based on clinical features, followed by assessment of muscle strength, muscle quantity, and adiposity (Atkins *et al*., 2020; Batsis & Villareal, 2021).

In primary care, diagnostic challenges include variability in measurement techniques, lack of standardized cutoffs for diverse populations, and uncertainty regarding coding and reimbursement. Furthermore, obesity-related limitations may confound physical performance tests, necessitating careful interpretation. PCPs must balance diagnostic rigor with pragmatism, recognizing that even probable sarcopenic obesity warrants intervention.

Clear documentation of functional impairment and body composition abnormalities can facilitate referral to allied health professionals and justify multidisciplinary management. Shared understanding among care teams is essential to avoid fragmented or contradictory recommendations.

Principles of management in primary care

Management of sarcopenic obesity in primary care is inherently multifaceted, aiming to improve muscle function while reducing excess adiposity without exacerbating muscle loss. Lifestyle interventions form the cornerstone of care, supported by management of comorbidities and, in selected cases, pharmacological therapies (Barbosa-Silva *et al*., 2020).

Primary care is uniquely positioned to coordinate long-term, individualized management plans. Emphasis should be placed on achievable goals, patient education, and regular monitoring of functional outcomes rather than weight alone. Importantly, interventions should be adapted to patients' preferences, capabilities, and social contexts. Core management domains and practical actions for sarcopenic obesity in primary care are summarized in **Table 3**.

Table 3.

Domain	Key Interventions	Primary Care Role
Physical activity	Resistance training ± aerobic exercise	Counseling, referral, monitoring
Nutrition	Adequate protein intake, moderate caloric restriction	Dietary guidance, dietitian referral
Weight management	Avoid aggressive weight loss	Goal setting, risk mitigation
Comorbidity care	Diabetes, cardiovascular disease, inflammation	Optimization and coordination
Medication review	Identify sarcopenia-promoting drugs	Deprescribing where appropriate
Follow-up	Functional outcomes,	Longitudinal

	QoL	monitoring

Nutritional strategies

Nutritional management of sarcopenic obesity requires a paradigm distinct from conventional calorie-focused weight-loss approaches, with explicit prioritization of muscle preservation and functional capacity. Adequate protein intake is central to this strategy, as older adults exhibit anabolic resistance and therefore require higher protein thresholds to stimulate muscle protein synthesis. Contemporary guidelines recommend protein intakes exceeding those of younger adults, particularly during periods of intentional weight reduction, to mitigate muscle loss (Cesari *et al*., 2020; Studenski *et al*., 2020). Beyond total intake, qualitative aspects of protein consumption are clinically relevant. Even distribution of protein across meals and inclusion of leucine-rich sources—such as dairy products, legumes, eggs, and high-quality animal proteins—may enhance anabolic signaling and support muscle maintenance. In primary care, practical counseling should emphasize achievable dietary modifications rather than rigid prescriptions, particularly for patients with appetite limitations, dentition issues, or socioeconomic constraints.

When caloric restriction is indicated for cardiometabolic risk reduction, it should be modest, individualized, and paired with resistance exercise to minimize loss of lean mass. Aggressive energy restriction and very-low-calorie diets are generally discouraged in older adults with sarcopenic obesity due to consistent evidence of disproportionate muscle loss and functional decline (Peterson *et al*., 2021). Primary care clinicians play a key role in identifying patients at risk of inappropriate dietary restriction, reinforcing muscle-preserving principles, and facilitating referral to dietitians when available. Where access to specialized nutritional support is limited, simplified guidance focused on protein adequacy and functional outcomes may still confer meaningful benefit.

Physical activity and exercise interventions

Exercise represents the cornerstone of sarcopenic obesity management and is among the most robustly supported interventions across diverse populations. Resistance training has consistently demonstrated improvements in muscle strength, physical performance, and functional independence, even among older adults with obesity and multiple comorbidities (Lopez *et al*., 2022). These adaptations occur despite blunted hypertrophic responses with aging, underscoring the clinical relevance of neuromuscular and functional gains.

Aerobic exercise complements resistance training by improving cardiovascular fitness, insulin sensitivity, and fat mass reduction, thereby addressing the metabolic dimension of sarcopenic obesity. Multicomponent exercise programs that integrate resistance, aerobic, balance, and functional training appear particularly well-suited to primary care populations, as they address fall risk and mobility limitations alongside metabolic health.

In primary care settings, exercise prescriptions should emphasize safety, feasibility, and long-term adherence rather than optimal training intensity. Home-based programs, community exercise groups, or physiotherapist-guided interventions may be more accessible than gym-based regimens for many patients. Primary care practitioners can reinforce key principles—gradual progression, consistency, and functional relevance—while monitoring for pain, fatigue, or exacerbation of comorbid conditions. Even modest increases in physical activity may yield clinically meaningful improvements when sustained over time.

Pharmacological and emerging therapies

Pharmacological treatment options for sarcopenic obesity remain limited and largely adjunctive. Anti-obesity medications may facilitate fat loss and metabolic improvement but require cautious use in older adults, with close attention to potential adverse effects on muscle mass, appetite, and functional status (Deutz *et al*., 2021). To date, no pharmacological agents are specifically approved for the treatment of sarcopenic obesity, and evidence supporting routine use of anabolic therapies remains insufficient.

Emerging interventions—including selective androgen receptor modulators, myostatin inhibitors, and other anabolic agents—are under investigation but remain experimental (Waters *et al*., 2021). Until clearer evidence of efficacy and safety is available, pharmacological strategies should not replace foundational lifestyle interventions.

In primary care, comprehensive medication review is an essential and often overlooked component of management. Long-term corticosteroids, sedatives, and other medications associated with muscle wasting, fatigue, or falls should be reassessed where possible. Optimization of comorbidity management—including glycemic control, treatment of vitamin D deficiency, and correction of endocrine abnormalities—may indirectly support muscle health and functional outcomes (Peel & Hubbard, 2021).

Multidisciplinary and long-term care considerations

Effective management of sarcopenic obesity typically requires a coordinated, multidisciplinary approach. Collaboration among primary care clinicians, dietitians, physiotherapists, and—when indicated—geriatricians or endocrinologists allows for integrated management of nutritional, functional, and metabolic dimensions of the condition (Batsis & Zagaria, 2021). Within this framework, primary care practitioners serve as coordinators of care, ensuring continuity, prioritization of patient-centered goals, and alignment across interventions.

Long-term follow-up is critical, as sarcopenic obesity reflects a chronic, progressive condition rather than a short-term therapeutic target. Monitoring should extend beyond weight or body mass index to include functional measures, physical performance, quality of life, and participation in daily activities. Framing management around outcomes that matter most to patients—such as maintaining independence and mobility—may enhance engagement and adherence while reinforcing the distinctive goals of sarcopenic obesity care within primary care practice.

RESULTS AND DISCUSSION

Clinical implications for primary care practice

Sarcopenic obesity poses a distinctive challenge for primary care because it does not conform to traditional diagnostic or management paradigms. Patients may meet criteria for overweight or obesity by conventional anthropometric

measures while simultaneously experiencing progressive muscle weakness, declining mobility, and reduced physiological reserve. In busy primary care settings—where consultations are time-limited and frequently organized around single-disease targets—this dual pathology is easily overlooked or misattributed to "normal aging," sedentary behavior, or poor motivation.

The evidence synthesized in this review underscores the central role of primary care in the early recognition and longitudinal management of sarcopenic obesity. Unlike specialist-driven models that rely heavily on imaging or advanced body composition analysis, primary care is uniquely positioned to detect functional decline over time. Subtle changes—such as reduced gait speed, increasing difficulty with activities of daily living, recurrent falls, or declining exercise tolerance—often precede overt disability and may signal sarcopenic obesity even when body weight remains stable or increases. These functional trajectories provide clinically meaningful signals that extend beyond weight-centric assessments and should prompt further evaluation (Studenski *et al*., 2020; Beaudart *et al*., 2022).

Importantly, sarcopenic obesity necessitates a reframing of obesity management goals in older adults. Weight loss alone is neither a sufficient nor universally appropriate target. Instead, preserving or improving muscle function while selectively reducing excess adiposity becomes the primary therapeutic objective. This shift has practical implications for counseling, referral pathways, and outcome monitoring in routine practice. Functional capacity, independence, and quality of life may represent more relevant endpoints than weight reduction alone in many primary care populations.

Management principles in primary care

Although no single, universally accepted treatment algorithm exists, several consistent management principles emerge from contemporary literature that are directly applicable to primary care.

First, multimodal lifestyle intervention forms the cornerstone of management. Resistance-based physical activity is consistently identified as the most effective strategy for improving muscle strength and physical function in individuals with sarcopenic obesity (Peterson *et al*., 2021; Lopez *et al*., 2022). Aerobic exercise alone, while beneficial for cardiometabolic health, appears insufficient to counteract muscle loss and may exacerbate lean mass decline when combined with caloric restriction if resistance training is absent (Villareal *et al*., 2020). For primary care clinicians, this highlights the importance of explicitly recommending resistance or strength-based activities rather than generic advice to "increase physical activity."

Second, nutritional optimization is integral to effective management. Adequate protein intake—ideally distributed evenly across meals—has been associated with improved muscle outcomes in older adults with obesity (Deutz *et al*., 2021). Primary care practitioners are well placed to identify undernutrition masked by excess adiposity and to address common barriers, including reduced appetite, dental problems, financial constraints, and social isolation. Even brief dietary counseling, when focused on protein adequacy and functional goals, may yield meaningful benefits.

Third, intentional weight loss should be approached with caution. While modest reductions in fat mass can improve metabolic risk, aggressive caloric restriction without concurrent resistance training and sufficient protein intake increases the likelihood of worsening sarcopenia and functional decline (Villareal *et al*., 2020; Waters *et al*., 2021). In older adults with multimorbidity, loss of strength and independence may have greater clinical consequences than marginal improvements in metabolic parameters. Primary care clinicians therefore play a critical role in balancing competing risks and aligning treatment goals with patient priorities.

Finally, effective management of sarcopenic obesity requires attention to comorbid conditions such as type 2 diabetes, chronic kidney disease, inflammatory disorders, and osteoarthritis. These conditions both contribute to and are exacerbated by sarcopenic obesity, reinforcing the need for integrated, patient-centered care rather than siloed disease-specific management (Kalyani *et al*., 2021; Stephen & Janssen, 2021).

Barriers and gaps in primary care implementation

Despite increasing recognition of sarcopenic obesity, several barriers limit effective implementation in primary care. Diagnostic uncertainty remains a major challenge. The lack of universally accepted, primary-care–friendly diagnostic criteria contributes to inconsistent recognition, underdocumentation, and variability in clinical practice (Dent *et al*., 2021; Cruz-Jentoft & Sayer, 2023). Many existing definitions rely on measures that are impractical or unavailable in routine primary care settings.

Time constraints and competing clinical priorities further impede routine functional assessment. Although tools such as gait speed, chair stand tests, and grip strength measurement are feasible and inexpensive, they are not yet systematically embedded into many primary care workflows (Beaudart *et al*., 2022). Limited training, lack of standardized protocols, and insufficient reimbursement structures may discourage their routine use.

Care coordination represents another critical gap. Optimal management often requires collaboration with physiotherapists, dietitians, and community-based exercise programs. In many healthcare systems, access to these services is fragmented, unevenly distributed, or financially prohibitive, disproportionately affecting older adults from lower socioeconomic backgrounds (Dodds *et al*., 2020; Peel & Hubbard, 2021).

Finally, the evidence base remains limited by a scarcity of primary-care–focused intervention trials specifically targeting sarcopenic obesity. Much of the current guidance is extrapolated from studies of sarcopenia or obesity in isolation, which may not fully capture the complexity or priorities of community-dwelling older adults with multimorbidity (Batsis & Zagaria, 2021).

Future directions and research priorities

Advancing care for sarcopenic obesity will require bridging the gap between research definitions and clinical pragmatism. Development of validated, low-cost screening pathways tailored to primary care is a key priority. Such pathways should integrate functional assessment with simple anthropometric measures and emphasize longitudinal change rather than rigid diagnostic thresholds.

Future research should also prioritize pragmatic trials of integrated lifestyle interventions delivered or coordinated through primary care. Outcomes of interest should extend

beyond body composition to include mobility, independence, quality of life, healthcare utilization, and institutionalization—endpoints that reflect real-world priorities for patients and clinicians alike (Cesari *et al*., 2020; Landi *et al*., 2020).

Finally, sarcopenic obesity should be situated within broader frameworks of healthy aging, frailty prevention, and chronic disease management. Conceptualizing it as a modifiable risk state—rather than an inevitable consequence of aging—may promote earlier identification, reduce therapeutic nihilism, and support more proactive, function-focused care across the lifespan.

CONCLUSION

Sarcopenic obesity represents a clinically significant and increasingly prevalent condition at the intersection of aging, obesity, and functional decline. Its impact extends beyond body composition, influencing metabolic health, physical independence, and overall quality of life. Despite these consequences, sarcopenic obesity remains under-recognized in primary care, largely due to diagnostic ambiguity and entrenched weight-centric paradigms.

This narrative review highlights the importance of reframing sarcopenic obesity as a functional, multidimensional syndrome that aligns naturally with the scope and strengths of primary care. By prioritizing functional assessment, cautious weight management, resistance-based physical activity, and nutritional adequacy, primary care clinicians can play a central role in mitigating its progression and consequences.

As populations continue to age, integrating sarcopenic obesity evaluation and management into routine primary care will be essential for promoting healthy longevity and reducing the burden of disability. Continued research, guideline development, and system-level support are required to translate emerging evidence into sustainable, equitable clinical practice.

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