

Malnutrition and Sarcopenic Obesity in Older Adults: Screening, Assessment, and Management

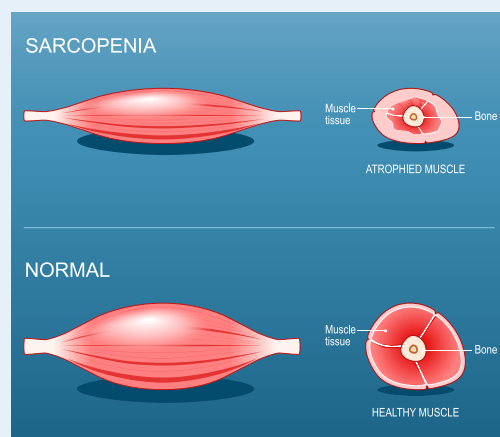
Older adults are one of the fastest-growing populations in the United States, representing more than 1 in every 6 Americans.¹ Aging is associated with an increased risk for sarcopenia, obesity, and sarcopenic obesity, all of which may contribute to poorer quality of life. Among older adults, the prevalence of obesity is 36–43%, sarcopenia 10–27%, and sarcopenic obesity 10%.^{2–4}

Definitions

Malnutrition: A state resulting from inadequate intake, absorption, or utilization of nutrients leading to altered body composition and impaired function.⁵

Sarcopenia: Progressive loss of muscle mass, strength, and physical performance associated with age and aging, and can be influenced by nutritional status.⁶

Sarcopenic Obesity: The coexistence of obesity and sarcopenia. Diagnostic criteria and thresholds vary across studies and regions due to a lack of established criteria sets.⁷



Screening for Sarcopenia, Sarcopenic Obesity, and Malnutrition

Factors to consider when screening for sarcopenic obesity and malnutrition include age ≥ 65 years; recent illness, hospitalization, functional decline, or muscle mass loss; reduced appetite, early satiety, GI symptoms; use of medications affecting intake or absorption; chronic inflammatory or cardiometabolic conditions; sleep duration; mental health status; and stress management. Strengths and limitations of commonly used nutritional screening tools are listed below.

Screening Tools	Strengths	Limitations
MNA-SF	Quick, easy, and validated tool for screening and diagnosing malnutrition among older individuals. ⁸	May under-detect malnutrition risk in older adults with preserved or high BMI and uses a calf circumference cutoff of <31 cm (which fails to account for sex differences). ⁸
MUST	Common malnutrition screening tool. ⁹	Relies on BMI and weight loss. ¹⁰
SARC-F	• Simple and quick way to screen for sarcopenia. • Validated in the older adult population. • Includes strength, assistance with walking, ability to rise from a chair, climb stairs, and fall frequency. • Score >3 is predictive of sarcopenia and poor outcomes.¹¹	Sensitivity is reported to be low. ¹²

MNA-SF: Mini Nutrition Assessment Short-Form; **MUST:** Malnutrition Universal Screening Tool; **SARC-F:** Strength, Assistance with walking, Rising from a chair, Climbing stairs, Falls;

Strengths in Nutrition Assessment Measures with Sarcopenia or Sarcopenic Obesity^{13,14}

- BMI or high waist circumference may be quick, practical, cost-effective, and not require specialized expertise.
- BIA is affordable, portable, and can be implemented into body weight scales, providing wide utility and scalability.
- DXA machines are less costly; scans are quick, involve minimal radiation exposure, and have low participant burdens.
- Functional measures can signal risk despite preserved or high body mass (handgrip strength, gait speed/mobility, decline in ADLs/IADLs, and chair stand or sit-to-stand).

Why Malnutrition is Missed in Sarcopenic Obesity?

- Malnutrition frequently co-exists with obesity and sarcopenia in older adults.
- Standard nutrition screening tools may miss malnutrition in older adults with higher BMI, including those with sarcopenic obesity, leading to incorrect classifications.⁹
- Screening tools relying on BMI or weight loss alone often fail to flag risk in this population, as many tools were not designed to detect malnutrition in the presence of excess adiposity or altered body composition.⁵

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Evidence/Effect on Sarcopenia or Sarcopenic Obesity	Recommendations
Protein recommendations are suggested to range from 1.0–1.2 g/kg. ^{15,16}	Referral to an RD for evaluation and counseling.
Oral nutrition supplements (ONS) may help older adults meet protein and amino acid needs. ^{15,16}	Encourage adequate protein intake and use of ONS when appropriate.
Whole foods, particularly fruits and vegetables, may support physical performance and help prevent declines in muscle strength; however, evidence for direct muscle health benefits in older adults with sarcopenia remains limited. ¹⁷	Encourage intake of nutrient-dense whole foods including fruits and vegetables.
Creatine monohydrate paired with resistance training appeared to improve strength, whole lean body mass, and select measures of functional ability in older adults (handgrip strength, sit-to-stand). Additional research is needed to determine the effects of creatine supplementation without exercise. ¹⁸	Consider creatine monohydrate supplementation alongside resistance training when appropriate.
Supplementation with leucine, whey protein, and vitamin D demonstrated increases in appendicular mass in patients with sarcopenia. ¹⁵	Consider leucine, whey protein, and vitamin D supplementation to support muscle mass.

Physical activity, sleep, and mental health are other important factors to consider. It is also important to add resistance training at least 2x/week. RD: Registered Dietitian; ONS: Oral Nutritional Supplement

Key Takeaways

- Screen older adults for malnutrition, sarcopenia, and sarcopenic obesity regardless of BMI.
- Recognize that excess adiposity may mask malnutrition and muscle loss, increasing the risk of underidentification.
- Consider further assessment when intake is reduced, muscle function declines, or chronic inflammation is present.
- Use nutrition, functional, and body composition data together when evaluating risk.
- Consider referral to a registered dietitian and other appropriate members of the healthcare team when malnutrition, sarcopenia, or sarcopenic obesity is suspected.