

LETTER TO THE EDITOR OPEN ACCESS

RESEARCH STUDIES

Revised Diagnostic Algorithm for Sarcopenic Obesity in Japan After the Asian Working Group for Sarcopenia 2025 Consensus Update (JWGSO 2026)

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To the Editor,

The Japanese Working Group on Sarcopenic Obesity (JWGSO), jointly established by the Japan Society for the Study of Obesity and the Japanese Association on Sarcopenia and Frailty, previously published consensus diagnostic criteria for sarcopenic obesity in Japan [1]. The statement defined sarcopenic obesity as the coexistence of obesity and sarcopenia and proposed a two-step algorithm: screening by sarcopenia-related measures and waist circumference or body mass index (BMI), followed by diagnostic assessment of sarcopenia and adiposity [1]. The diagnostic component included low handgrip strength, the five-times chair stand test, low BMI-corrected limb skeletal muscle mass, and obesity defined by visceral fat area or body fat percentage [1].

The Asian Working Group for Sarcopenia (AWGS) 2025 consensus update now provides a new framework for sarcopenia diagnosis and muscle health promotion in Asian populations [2]. It harmonizes with the Global Leadership Initiative in Sarcopenia by defining sarcopenia as concurrent low muscle mass and low muscle strength, while categorizing physical performance measures, including the five-times chair stand test, as outcome

measures rather than diagnostic criteria [2, 3]. AWGS 2025 also expands muscle health assessment into middle age and provides age-stratified cutoffs for adults aged 50–64 years and ≥ 65 years [2].

In response, JWGSO has revised the Japanese diagnostic algorithm for sarcopenic obesity (JWGSO 2026; Figure 1). The revision has three principal changes. First, the previous age restriction of 40 years or older and younger than 75 years, originally set because evidence was limited in adults aged ≥ 75 years, has been removed [1]. This aligns with the AWGS 2025 life-course concept and should facilitate evidence generation in this age group [2]. Clinical judgment remains essential in very old adults.

Second, the five-times chair stand test has been removed from the diagnostic criteria for sarcopenia. Diagnosis in the revised JWGSO algorithm now requires both low muscle strength and low muscle mass. Low muscle strength is assessed by handgrip strength, using AWGS 2025 cutoffs of < 34 kg in men and < 20 kg in women aged 50–64 years, and < 28 kg in men and < 18 kg in women aged ≥ 65 years [2]. Although AWGS 2025 provides no handgrip-strength cutoffs for individuals aged < 50 years,

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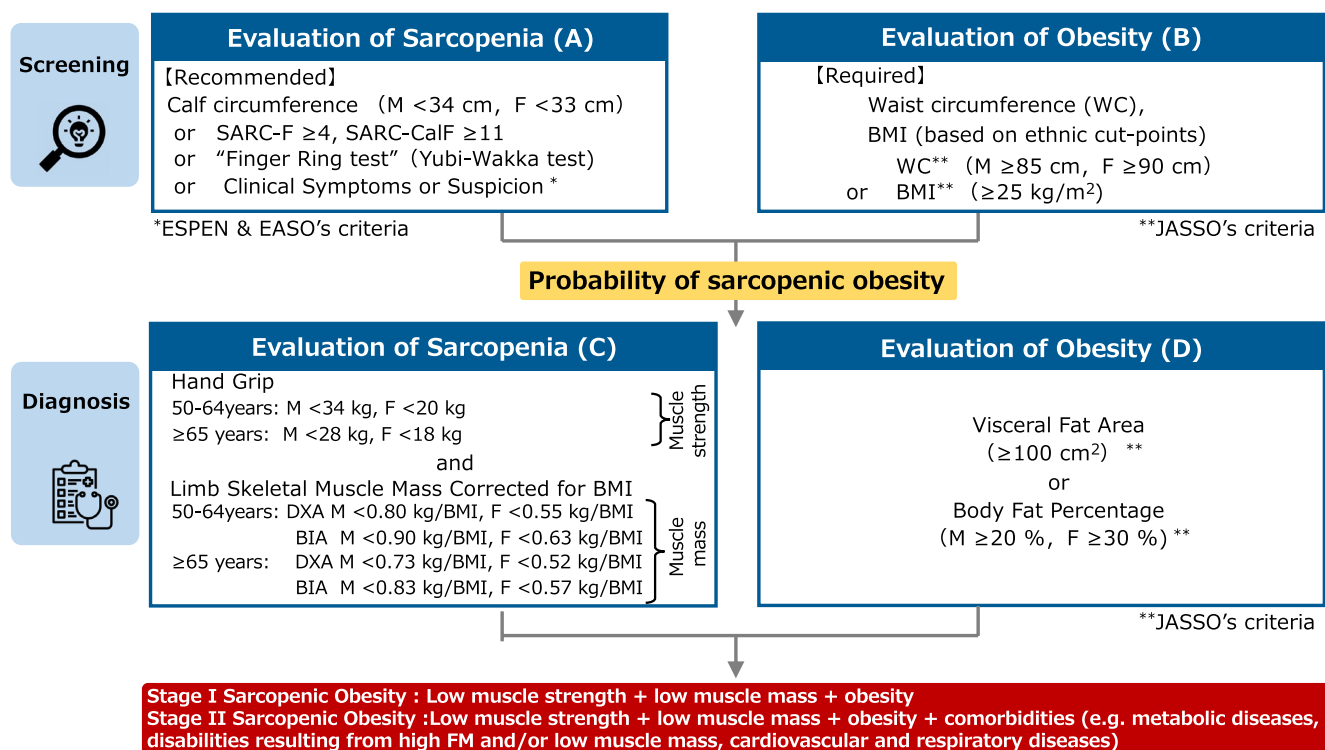


FIGURE 1 | Revised diagnostic algorithm for sarcopenic obesity in Japan (JWGSO 2026). Screening for sarcopenia is recommended and includes calf circumference, SARC-F, SARC-CalF, the Yubi-Wakka test, and clinical symptoms or suspicion. Screening for obesity is required and uses waist circumference or body mass index based on Japanese criteria. Diagnosis requires low handgrip strength, low limb skeletal muscle mass corrected for body mass index, and obesity defined by visceral fat area or body fat percentage. BIA, bioelectrical impedance analysis; BMI, body mass index; DXA, dual-energy X-ray absorptiometry; ESPEN, European Society for Clinical Nutrition and Metabolism; EASO, European Association for the Study of Obesity; JASSO, Japan Society for the Study of Obesity; JWGSO, Japanese Working Group on Sarcopenic Obesity; WC, waist circumference.

the 50–64-year cutoffs may be applied provisionally; further evidence is needed for this age group. Physical performance measures remain useful for risk stratification, monitoring intervention effects, and predicting outcomes, but are not required for diagnosis.

Third, BMI-corrected limb skeletal muscle mass cutoffs have been updated according to AWGS 2025 and are applied to both dual-energy X-ray absorptiometry (DXA) and bioelectrical impedance analysis (BIA) [2]. Because sarcopenic obesity is evaluated in the setting of excess adiposity, JWGSO selected BMI-corrected limb skeletal muscle mass as the sole muscle-mass index. Visser et al. showed that low-muscle-mass prevalence by height-, weight-, or BMI-adjusted ratios remained BMI-dependent in older US and Japanese samples, indicating that muscle-mass cutoffs should account for BMI [4]. For adults aged 50–64 years, the DXA cutoffs are <0.80 kg/BMI in men and <0.55 kg/BMI in women, and the BIA cutoffs are <0.90 kg/BMI in men and <0.63 kg/BMI in women. For adults aged ≥65 years, the DXA cutoffs are <0.73 kg/BMI in men and <0.52 kg/BMI in women, and the BIA cutoffs are <0.83 kg/BMI in men and <0.57 kg/BMI in women.

The obesity component remains based on Japanese obesity criteria [5]. Screening requires high waist circumference or

BMI, using Japanese cutoffs of waist circumference ≥85 cm in men and ≥90 cm in women, or BMI ≥25 kg/m². Diagnostic confirmation of obesity is based on visceral fat area ≥100 cm² or body fat percentage ≥20% in men and ≥30% in women. The sarcopenia screening step remains recommended but not mandatory, and includes calf circumference, SARC-F, SARC-CalF, the Yubi-Wakka test and clinical symptoms or suspicion [1, 6].

The revised JWGSO 2026 algorithm therefore aligns Japanese criteria for sarcopenic obesity with current Asian sarcopenia criteria while preserving Japan-specific obesity assessment. Stage I sarcopenic obesity is low muscle strength, low muscle mass, and obesity; Stage II additionally includes comorbidities, including metabolic, disability-related, cardiovascular, or respiratory diseases. Future studies should validate the algorithm across age strata, evaluate its prognostic value, examine DXA–BIA comparability, and clarify how muscle-health concepts can be incorporated into sarcopenic obesity diagnosis. Pathophysiological studies should examine muscle quality, ectopic fat, inflammation, and muscle-adipose-organ crosstalk to distinguish sarcopenic obesity from simple coexistence and determine whether mechanisms differ between trajectories from nonsarcopenic obesity to sarcopenic obesity and from nonobese sarcopenia to sarcopenic obesity.

Author Contributions

K.I. drafted the manuscript. All authors contributed to the consensus process, critically revised the manuscript for important intellectual content, and approved the final version.

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Ethics Statement

The authors have nothing to report.

Consent

The authors have nothing to report.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

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