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COMMENTARY

Rethinking sarcopenia screening in middle age—The 2025 AWGS consensus and its implications for cognitive health

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We read with great interest the growing body of literature on sarcopenia and wish to highlight the clinical significance of the 2025 revision by the Asian Working Group for Sarcopenia (AWGS), particularly regarding its implications for cognitive health in aging populations. Sarcopenia, characterized by progressive loss of muscle mass and strength, has traditionally been screened in individuals over 65 years of age. The 2025 AWGS consensus represents a paradigm shift by lowering the screening threshold to 50 years, alongside streamlining diagnostic criteria to two core components: insufficient muscle mass and decreased muscle strength [1]. Notably, physical performance measures such as gait speed have been removed from the diagnostic algorithm, as these are now recognized as downstream consequences of muscle deterioration rather than independent diagnostic markers. For grip strength, the consensus retains the 2019 thresholds for adults aged ≥ 65 years (men < 28 kg; women < 18 kg) while introducing higher thresholds for the 50–64 age group (men < 34 kg; women < 20 kg). We believe this revision carries substantial implications beyond musculoskeletal health, particularly for early identification of cognitive decline risk. Emerging evidence indicates that cognitive impairment prevalence is more than twice as high among patients with sarcopenia (54.4%) compared to those without (20.9%), while sarcopenia prevalence is similarly elevated among patients with dementia (26.4%) versus non-demented individuals (8.3%) [2].

Grip strength has been shown to correlate with executive function, attention, and verbal fluency, suggesting that a simple, low-cost measure could serve as an early indicator of cognitive risk—well before clinical dementia manifests. Mechanistically, sarcopenia and cognitive impairment appear to share overlapping pathways, including chronic low-grade inflammation, mitochondrial dysfunction, oxidative stress, and gut microbiota dysbiosis. Elevated pro-inflammatory cytokines (IL-6, TNF-α) alongside reduced anti-inflammatory IL-10 have been observed in both conditions, supporting the hypothesis of a shared "inflammaging" substrate driving concurrent muscle and neuronal decline. This mechanistic overlap reinforces the biological plausibility of using muscle health as a proxy marker for brain health in clinical practice [3].

From a public health perspective, lowering the screening age to 50 years offers a critical window for intervention before the cumulative, and potentially irreversible, effects of sarcopenia and cognitive decline become established. Resistance training has demonstrated benefit not only for muscle strength but also for cognitive outcomes, potentially mediated through elevated brain-derived neurotrophic factor (BDNF) and IGF-1, with neuroprotective effects reported to persist for at least one year post-intervention. Similarly, correction of modifiable risk factors; vitamin D deficiency, inadequate protein intake, and hormonal decline (testosterone, DHEA); may confer dual benefit across both musculoskeletal and cognitive domains. We would, however, urge caution regarding two aspects of implementation. First, the removal of physical performance measures from diagnostic criteria, while simplifying clinical workflow, may reduce sensitivity for detecting individuals with early functional decline who do not yet meet strength or mass thresholds; longitudinal validation in diverse Asian cohorts is warranted [4].

Second, pharmacological interventions targeting the myostatin/activin pathway and testosterone supplementation remain investigational, with the latter carrying non-trivial risks (thromboembolism, atrial fibrillation, erythrocytosis) that must be weighed against modest cognitive and functional gains. To date, no sarcopenia-specific therapy has received regulatory approval, underscoring that non-pharmacological strategies; exercise, nutrition, and lifestyle modification; remain the cornerstone of management. In conclusion, the 2025 AWGS consensus represents a meaningful advance in reframing sarcopenia not merely as a diagnosis but as an entry point for promoting muscle health across the life course. Given its bidirectional relationship with cognitive decline, we advocate for the integration of

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muscle health screening into routine middle-age health assessments, consistent with the WHO's Integrated Care for Older People (ICOPE) framework [5]. Future research should prioritize large-scale, prospective studies examining whether early muscle-directed interventions in midlife can meaningfully delay the onset of cognitive impairment, and should pursue mechanism-based diagnostics that capture the shared biology of the muscle–brain axis. We commend the AWGS for this timely revision and encourage clinicians across disciplines; geriatrics, neurology, and primary care alike—to consider muscle health assessment as a routine, low-burden component of midlife preventive care.

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