



銀髮族健康照護與營養需求

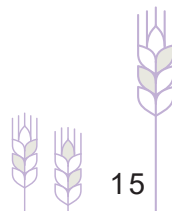
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摘要

肌肉老化是當今重要的健康挑戰，研究顯示 25-70 歲間人體會發生劇烈的身體組成變化，包括 37% 的肌肉流失和 114% 的脂肪增加。骨骼肌老化的病理生理學特徵包括快速型 II 型肌纖維萎縮、肌纖維類型從快縮轉向慢縮的轉變，以及因發炎、能量攝取減少、粒線體異常和荷爾蒙變化而產生的合成阻抗，最終導致衰弱症候群。亞洲肌少症工作組提出實證醫學建議，建議每年進行營養不良篩檢，健康老年人蛋白質攝取目標為 $\geq 1.0\text{g/kg}$ 體重，肌少症或衰弱患者則需 $\geq 1.2\text{g/kg}$ 。當飲食攝取不足時，應策略性補充高品質蛋白質、支鏈胺基酸、HMB 和缺乏時補充維生素 D。阻力運動與營養的協同作用顯示優於單一介入的效果。一項 12 週隨機對照試驗證實，富含蛋白質的湯品（每份 24-30g 蛋白質）結合每週運動，能顯著改善 6 分鐘步行距離、起坐表現和代謝指標。值得注意的是，亞洲人群在各 BMI 水平下都有較高的脂肪比例，且肌肉量和肌力的年齡相關變化軌跡與西方人群不同，這些族群特異性差異需要量身定制的肌少症預防和管理策略。超高齡社會將朝向精準營養的新典範發展，強調個人化方法來優化整個老化過程中的肌肉健康，從而提升行動力、代謝與認知功能等，方法包括系統性篩檢、結構化運動計畫、專業營養諮詢和綜合監測評估。

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Health Care and Nutritional Needs of the Elderly

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Abstract

Muscle aging is an important health challenge today. Research has shown that between the ages of 25 and 70, the human body undergoes dramatic changes in body composition, including a 37% loss of muscle mass and a 114% increase in fat mass. The pathophysiological features of skeletal muscle aging include atrophy of fast-twitch type II fibers, a shift in muscle fiber composition from fast-twitch to slow-twitch, and anabolic resistance caused by inflammation, reduced energy intake, mitochondrial dysfunction, and hormonal changes, ultimately leading to frailty syndrome.

The Asian Working Group for Sarcopenia has issued evidence-based recommendations, suggesting annual screening for malnutrition. For healthy older adults, the recommended protein intake is ≥ 1.0 g/kg body weight, while individuals with sarcopenia or frailty require ≥ 1.2 g/kg. When dietary intake is insufficient, strategic supplementation with high-quality protein, branched-chain amino acids, HMB, and vitamin D (when deficient) is advised. The synergistic effects of resistance exercise combined with nutrition have been shown to be superior to either intervention alone.

A 12-week randomized controlled trial demonstrated that protein-rich soups (24–30g protein per serving), combined with weekly exercise, significantly improved six-minute walk distance, chair-stand performance, and metabolic indicators. Importantly, Asian

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populations tend to have higher fat mass across all BMI levels, and the age-related trajectories of muscle mass and strength differ from those observed in Western populations. These population-specific differences highlight the need for tailored strategies in sarcopenia prevention and management.

As societies enter a super-aged stage, the field is moving toward a new paradigm of precision nutrition, emphasizing personalized approaches to optimize muscle health throughout aging. This includes improving mobility, metabolism, and cognitive function through systematic screening, structured exercise programs, professional nutritional counseling, and comprehensive monitoring and evaluation.