Definition and Diagnostic Criteria for Sarcopenic Obesity: ESPEN and EASO Consensus Statement

Lorenzo M Donini [1], Luca Busetto [2], Stephan C Bischoff [3], Tommy Cederholm [4], Maria D Ballesteros-Pomar [5], John A Batsis [6], Juergen M Bauer [7], Yves Boirie [8], Alfonso J Cruz-Jentoft [9], Dror Dicker [10], Stefano Frara [11], Gema Frühbeck [12], Laurence Genton [13], Yftach Gepner [14], Andrea Giustina [11], Maria Cristina Gonzalez [15], Ho-Seong Han [16], Steven B Heymsfield [17], Takashi Higashiguchi [18], Alessandro Laviano [1], Andrea Lenzi [1], Ibolya Nyulasi [19], Edda Parrinello [20], Eleonora Poggiogalle [1], Carla M Prado [21], Javier Salvador [22], Yves Rolland [23], Ferruccio Santini [24], Mireille J Serlie [25], Hanping Shi [26], Cornel C Sieber [27], Mario Siervo [28], Roberto Vettor [2], Dennis T Villareal [29], Dorothee Volkert [27], Jianchun Yu [30], Mauro Zamboni [31], Rocco Barazzoni [32]

Affiliations   expand

Abstract

Introduction: Loss of skeletal muscle mass and function (sarcopenia) is common in individuals with obesity due to metabolic changes associated with a sedentary lifestyle, adipose tissue derangements, comorbidities (acute and chronic diseases) and during the ageing process. Co-existence of excess adiposity and low muscle mass/function is referred to as sarcopenic obesity (SO), a condition increasingly recognized for its clinical and functional features that negatively influence important patient-centred outcomes. Effective prevention and treatment strategies for SO are urgently needed, but efforts are hampered by the lack of a universally established SO definition and diagnostic criteria. Resulting inconsistencies in the literature also negatively affect the ability to define prevalence as well as clinical relevance of SO for negative health outcomes.

Aims and methods: The European Society for Clinical Nutrition and Metabolism (ESPEN) and the European Association for the Study of Obesity (EASO) launched an initiative to reach expert consensus on a definition and diagnostic criteria for SO. The jointly appointed international expert panel proposes that SO is defined as the co-existence of excess adiposity and low muscle mass/function. The diagnosis of SO should be considered in at-risk individuals who screen positive for a co-occurring elevated body mass index or waist circumference, and markers of low skeletal muscle mass and function (risk factors, clinical symptoms, or validated questionnaires). Diagnostic procedures should initially include assessment of skeletal muscle function, followed by assessment of body composition where presence of excess adiposity and low skeletal muscle mass or related body compartments confirm the diagnosis of SO. Individuals with SO should be further stratified into stage I in the absence of clinical complications or stage II if cases are associated with complications linked to altered body composition or skeletal muscle dysfunction.

Conclusions: ESPEN and EASO, as well as the expert international panel, advocate that the proposed SO definition and diagnostic criteria be implemented into routine clinical practice. The panel also encourages prospective studies in addition to secondary analysis of existing data sets, to study the predictive value, treatment efficacy and clinical impact of this SO definition.

Keywords: Obesity; Sarcopenia; Sarcopenic obesity.

[PubMed Disclaimer](#)

Conflict of interest statement

None of the authors display any conflict of interest in the production of this paper.