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Influence of the new EWGSOP2 consensus definition on studies involving (pre)sarcopenic older persons. Comment on "Sarcopenia" by Tournadre et al. Joint Bone Spine 2019;86(3):309–14

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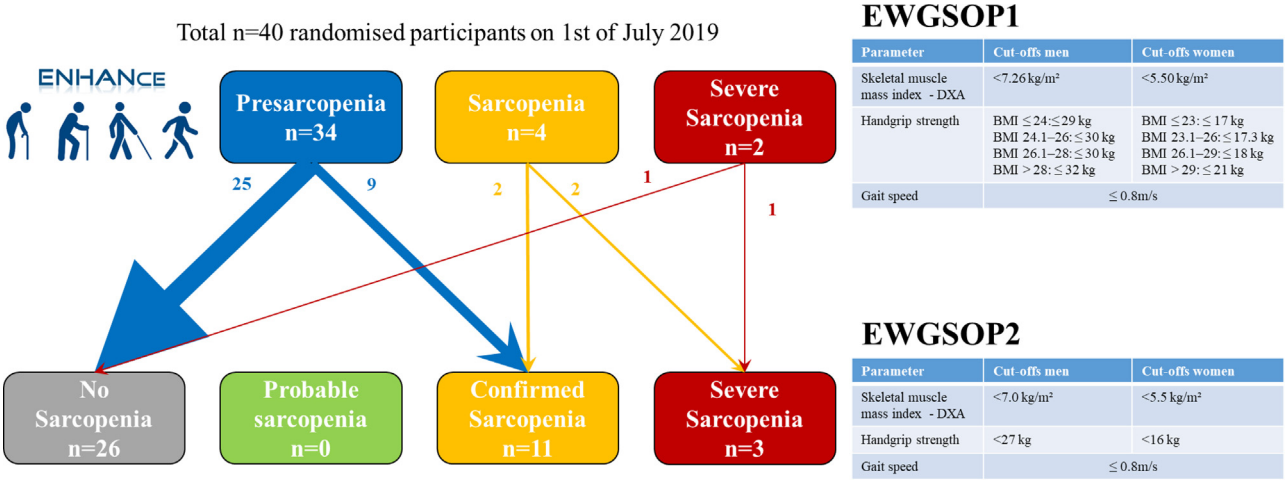
Recently, your journal published an interesting mini-review about sarcopenia [1]. In the time between acceptation and publication, diagnostic criteria were revised. In 2010, the European Working Group on Sarcopenia in Older People (EWGSOP) published a consensus on definition and diagnosis of sarcopenia, defining conceptual stages of sarcopenia with low muscle mass upfront: "presarcopenia", "sarcopenia" and "severe sarcopenia" (EWGSOP1) [2]. Recently a revised consensus was published, whereby low muscle strength is the key characteristic of sarcopenia (EWGSOP2) [3]. Persons with low muscle strength alone are identified as suffering "probable sarcopenia", while those with low muscle strength and low muscle quantity/quality have "confirmed sarcopenia". If additional low physical performance occurs, persons are classified as "severe sarcopenia". Additionally, cut-offs are simplified to be easier to use. However, a recent study by Reiss et al. demonstrates that there is a substantial mismatch in sarcopenia case finding according to EWGSOP1 and EWGSOP2 in geriatric inpatients [4].

In the light of these findings, we examined the effect of applying the new EWGSOP2 criteria on classification of participants in the Exercise and Nutrition for Healthy AgeiNg (ENHANce) randomized controlled trial (RCT) (ClinicalTrials.gov: NCT03649698). ENHANce is an ongoing 5-armed RCT with community-dwelling (pre)sarcopenic older persons aged ≥ 65 years, that examines the effect of an individualized nutritional intervention (protein supplementation and/or omega-3) combined with a physical exercise program. EWGSOP1 presarcopenic and sarcopenic older persons were eligible for inclusion.

In July 2019, 40 subjects (mean age 75.65 ± 6.80y, 45% females) were randomized in ENHANce. Of these, 34 are presarcopenic, four sarcopenic and two severely sarcopenic according to EWGSOP1. However, according to the EWGSOP2 criteria, 26 persons have no sarcopenia, none probable, 11 confirmed and three severe sarcopenia (Fig. 1). Consequently, in our small sample, only 14(35.0%) of subjects classified as presarcopenic, sarcopenic or severely sarcopenic in EWGSOP1 were classified as sarcopenic according to EWGSOP2. This number is even lower than the 48.8% reported by Reiss et al. [4]. None of the subjects in ENHANce met the new EWGSOP2 cut-offs for low handgrip strength. All 14 participants classified as sarcopenic in EWGSOP2, due to a prolonged chair



EWGSOP1

Parameter	Cut-offs men	Cut-offs women
Skeletal muscle mass index - DXA	<7.26 kg/m²	<5.50 kg/m²
Handgrip strength	BMI ≤ 24: ≤ 29 kg BMI 24.1–26: ≤ 30 kg BMI 26.1–28: ≤ 30 kg BMI > 28: ≤ 32 kg	BMI ≤ 23: ≤ 17 kg BMI 23.1–26: ≤ 17.3 kg BMI 26.1–29: ≤ 18 kg BMI > 29: ≤ 21 kg
Gait speed	≤ 0.8m/s	

EWGSOP2

Parameter	Cut-offs men	Cut-offs women
Skeletal muscle mass index - DXA	<7.0 kg/m²	<5.5 kg/m²
Handgrip strength	<27 kg	<16 kg
Gait speed	≤ 0.8m/s	

Fig. 1. Overview of classification of ENHANce participants according to EWGSOP1 and EWGSOP2 with their corresponding cut-offs.

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stand test (> 15 s), the second parameter suggested for low muscle strength.

In this small cohort of sarcopenic persons, we see only limited overlap in classification between both definitions. Remarkably, most presarcopenic subjects are no longer classified in EWGSOP2. A preclinical stage, similar to EWGSOP1's presarcopenia, is not described in the revised EWGSOP2. Similar to other age-related diseases, early detection and prevention might help to delay disease progression. Therefore, a consensus definition of preclinical or early stages of sarcopenia would be welcomed to identify early stages and address the needs of these older persons. Furthermore, all EWGSOP2 sarcopenic subjects had decreased lower limb strength, but normal handgrip strength. This is in line with sarcopenia affecting lower limbs earlier than upper limbs. However, EWGSOP2 cut-offs for handgrip strength might be too stringent compared to previous research suggesting higher cut-offs might detect mobility limitation [5,6].

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