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**Australian and New Zealand Society  
for Sarcopenia and Frailty Research**

# **ANZSSFR Task Force on Diagnostic Criteria for Sarcopenia**

## **Statement on announcement of ICD-10-AM code for sarcopenia**

In July 2019, sarcopenia was included in the latest update of the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM). The ICD-10-AM is derived from the World Health Organization's ICD-10 classification and provides codes used by clinicians to diagnose diseases and injuries.

Sarcopenia is described as a progressive and generalised skeletal muscle disorder involving accelerated loss of muscle mass and function. It is associated with increased risk for outcomes including functional decline, falls, fracture, loss of independence, and mortality. As such, sarcopenia diagnosis and treatment should be considered routine clinical practice for older patients (1).

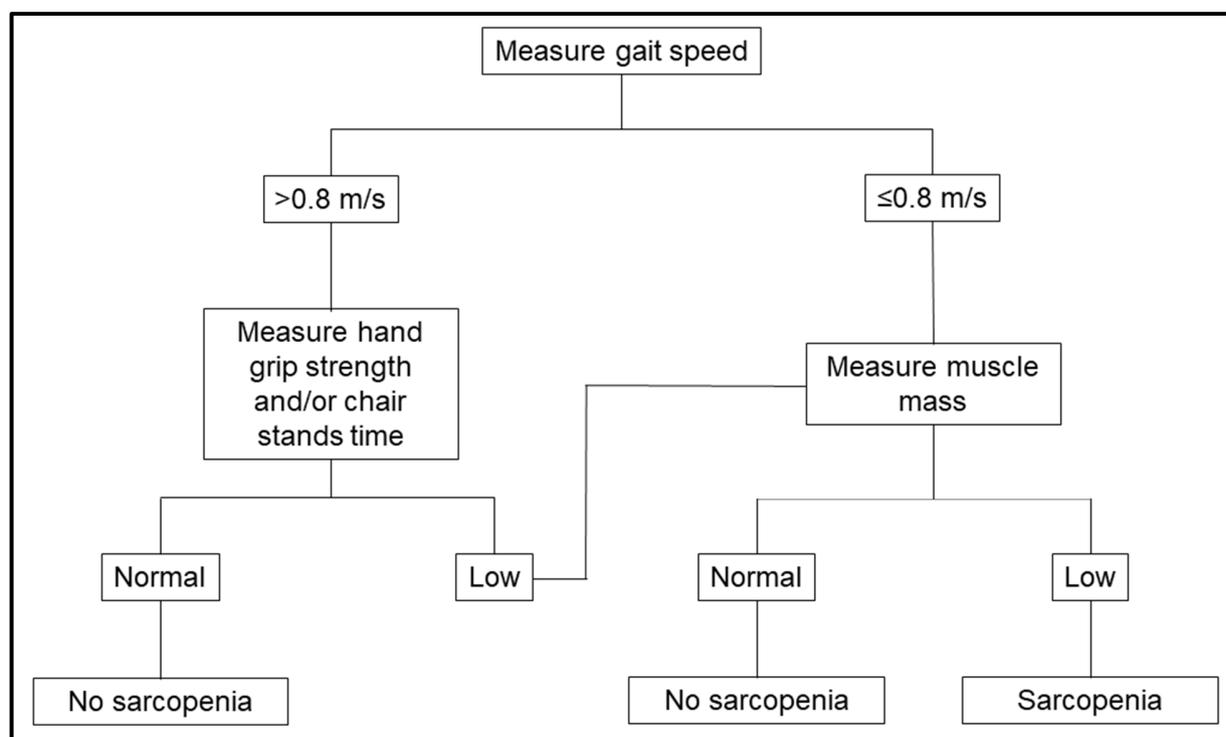
Sarcopenia can be effectively prevented and treated through prescription of appropriate exercise (particularly progressive resistance training) and nutrition (particularly ensuring adequate dietary protein intake). There are currently no approved pharmacotherapies for sarcopenia although several are in clinical trials. The provision of an ICD-10 code is expected to accelerate the development of drugs by pharmaceutical companies (2).

A number of operational definitions, measurements and cut-off points have been suggested for sarcopenia case-finding. In 2017-18, the Australian and New Zealand Society for Sarcopenia and Frailty Research (ANZSSFR) Task Force on Diagnostic Criteria for Sarcopenia conducted a Delphi process to clarify expert opinion on sarcopenia diagnosis in clinical practice and research in Australia and New Zealand. The results of this process were published in 2018 (3). Briefly, a consensus was achieved that the original definition of the European Working Group on Sarcopenia in Older People (EWGSOP) should be adopted in Australia and New Zealand. This definition describes sarcopenia as the presence of low muscle mass in the presence of low muscle strength and/or low physical performance (4). An algorithm to assist with sarcopenia case-finding is presented in Figure 1.

More recently, the EWGSOP has revised its definition and provided a number of new cut-off points for the different components of sarcopenia (5). After further consultation, the Task Force has opted to continue promoting adoption of the original EWGSOP definition (4) at this time. We recommend that clinicians diagnose sarcopenia through the assessment of muscle mass (dual-energy X-ray absorptiometry [DXA] or bioelectrical impedance analysis [BIA]), muscle strength (hand grip dynamometry or chair stands tests) and physical performance (gait speed tests).

Despite general agreement in terms of the definition of sarcopenia, there is substantial conjecture over appropriate cut-off points for each of the three components of sarcopenia (muscle mass, muscle strength and physical performance). Given this lack of agreement, we currently support the use of cut-off points recommended in both the original and revised EWGSOP definitions. Table 1 below provides the recommended cut-off points for both definitions. Clinicians should however be aware that these cut-off points have generally been derived from European Caucasian populations and their utility in patients of other ethnicities has not been extensively studied. Table 1 also provides cut-off points developed by the Asian Working Group for Sarcopenia (AWGS) (6) which are likely to be more appropriate for patients of Asian ethnicity.

The future work of the ANZSSFR Task Force includes validation of currently recommended cut-off points for European and US populations, as well as the development of locally and ethnically appropriate cut-off points in Australia and New Zealand. Regardless, we strongly encourage clinicians to adopt currently available cut-off points and use clinical judgement to diagnose sarcopenia using the ICD-10-AM code M62.84.



**Figure 1. Suggested algorithm for sarcopenia diagnosis (adapted from (4))**

**Table 1. Recommended cut-off points for diagnosis of low muscle mass, strength and physical performance according to the European Working Group on Sarcopenia in Older People (4, 5) and Asian Working Group for Sarcopenia (6).**

<b>Cut-off points</b>	
<i>Muscle mass</i>	<p>DXA</p> <ul style="list-style-type: none"> <li>• ALM/height<sup>2</sup> &lt;7.26 kg/m<sup>2</sup> for men, &lt;5.67 kg/m<sup>2</sup> for women (4)</li> <li>• ALM/height<sup>2</sup> &lt;7.0 kg/m<sup>2</sup> for men, &lt;5.5 kg/m<sup>2</sup> for women (5)</li> <li>• ALM &lt;20 kg for men, &lt;15 kg for women (5)</li> </ul> <p><i>Asian ethnicity</i></p> <ul style="list-style-type: none"> <li>• ALM/height<sup>2</sup> &lt;7.0 kg/m<sup>2</sup> for men, &lt;5.4 kg/m<sup>2</sup> for women (6)</li> </ul> <p>BIA</p> <ul style="list-style-type: none"> <li>• Skeletal muscle mass/height<sup>2</sup> &lt;8.87 kg/m<sup>2</sup> for men, &lt;6.42 kg/m<sup>2</sup> for women (4)</li> <li>• Severe sarcopenia: Skeletal muscle mass/height<sup>2</sup> ≤8.50 kg/m<sup>2</sup> for men, ≤5.75 kg/m<sup>2</sup> for women; Moderate sarcopenia: 8.51–10.75 kg/m<sup>2</sup> for men, 5.76–6.75 kg/m<sup>2</sup> for women; Normal: ≥10.76 kg/m<sup>2</sup> for men, ≥6.76 kg/m<sup>2</sup> for women (4)</li> </ul> <p><i>Asian ethnicity</i></p> <ul style="list-style-type: none"> <li>• Skeletal muscle mass/height<sup>2</sup> &lt;7.0 kg/m<sup>2</sup> for men, &lt;5.7 kg/m<sup>2</sup> for women (6)</li> </ul>
<i>Muscle strength</i>	<p>Handgrip strength (Jamar dynamometer)</p> <ul style="list-style-type: none"> <li>• Men &lt;30 kg (4)</li> <li>• Women &lt;20 kg (4)</li> <li>• Men &lt;27 kg (5)</li> <li>• Women &lt;16 kg (5)</li> </ul> <p><i>Asian ethnicity</i></p> <ul style="list-style-type: none"> <li>• Men &lt;26 kg (6)</li> <li>• Women &lt;18 kg (6)</li> </ul> <p>Chair stands test &gt;15 s for five rises (5)</p>
<i>Physical performance</i>	4-metre gait speed ≤0.8m/s (4-6)

Abbreviations – DXA: dual-energy X-ray absorptiometry, BIA: bioelectrical impedance analysis, ALM: appendicular lean mass.

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