

MUSCLE STRENGTH Sarcopenia Guideline 2018-2019 - Assessment

BVGG - SBGG



Muscle strength is the primary parameter of sarcopenia according to European Working Group on Sarcopenia in





Older People (EWGSOP).

Muscle strength can be assessed by various measurement methods and on various parameters. To assess general muscle strength in a clinical setting, to date best evidence is available for using maximum handgrip strength of the dominant hand . The proposed recommendation is aimed at the need to drive clinical action.







HOW?

A systematic search on reference values for muscle mass was performed:

- *Population*: young/healthy men & women (20-39)
- *Exposure*: grip strength
- *Outcome*: reference values
- *Study design*: observational / RCT (baseline)
- *Quality assessment*: COSMIN checklist

observational / RCT (baseline)				
s <i>ment</i> : COSMIN checklist	EWGSOP 2	[kg]	27-16	
	FNIH	[kg]	26-16 32-20	
		[kg/BMI]	1.0-0.56	
DATA HANDLING		MEN	WOMEN	
review revealed no relevant systematic uently, a systematic search was revealed 912 eligible reviews of inally included.	VERY LOW	< 25 kg	< 11 kg	TREATMENT out of the norm
		< 71 kPa	< 41 kPa	
deviation and number of retrieved. Subsequently, standard grees of freedom and pooled	AT RISK	25 kg < X < 38 kg	11 kg < X < 21 kg	SECUNDARY PREVENTION action should be undertaken to prevent worsening
		71 kPa < X < 93 kPa	41 kPa < X < 59 kPa	
on was calculated.		> 38 kg	> 21 kg	-> PRIMARY PREVENTION
-scores were calculated.	NORIVIAL			healthy, within the norm

> 59 kPa

Initial umbrella review revealed no relevant syste reviews. Subsequently, a systematic search was performed and revealed 912 eligible reviews of which 14 were finally included.

Mean, standard deviation and number of Participants was retrieved. Subsequently, standar error, pooled degrees of freedom and pooled standard deviation was calculated.

Finally, overall T-scores were calculated.



> 93 kPa

•We recommend maximum handgrip strength of the dominant hand to assess general muscle strength. We recommend categorising patients according to the normative values for healthy young people.

REFERENCES: Bäckman, E., et al. (1995). "Isometric muscle strength and 70 years." Scandinavian Journal of Rehabilitation Medicine 27(2): 109-117.Berg, H. E., et al. al. (2007). "Hip, thigh and calf muscle atrophy and bone loss after 5-week bedrest inactivity." Eur J Appl Physiol 99(3): 283-289. Bertovic, D. A., et al. (1999). "Muscular strength training is associated with low arterial compliance and high pulse pressure." Hypertension 33(6): 1385-1391.Budziareck, M. B., et al. (2008). "Reference values and determinants for handgrip strength in healthy subjects." Clin Nutr 27(3): 357-362.Fuster, V., et al. (1998). "Anthropometry and strength relationship: male-female differences." Anthropol Anz 56(1): 49-56. Gunther, C. M., et al. (2008). "Grip strength in healthy caucasian adults: reference values.". icons from thenounproject.com.