

PHYSICAL PERFORMANCE Sarcopenia Guideline 2018-2019 - Assessment

BVGG - SBGG

WHY?

Physical performance is a measurable parameter to determine the severity of 1 = 882

Gait speed

	T-SCORE	
	< -2	Out of the norm
$\left \begin{array}{c} \\ \end{array} \right $	-2 < X < -1	Action should be undertaken to prevent worsening

sarcopenia according to the European Working Group on Sarcopenia in Older People (EWGSOP). To assess physical performance in a clinical setting, to date best evidence is available for using gait speed. The proposed recommendation is aimed at the need to drive clinical action.



An umbrella review on reference values for gait speed was performed.

- *Population*: young/healthy men and women (20-39 year)
- Exposure: gait speed
- *Outcome*: reference values
- Study design: systematic review, metaanalysis

T-scores



Healthy, within the norm



		Gait s		Gait speed	Gait speed
Study or Subgroup	Gait speed	SE	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Al-Obaidi 2003 (men 20)	1.217	0.051	2.3%	1.22 [1.12, 1.32]	-
Al-Obaidi 2003 (women 20)	1.082	0.038	2.5%	1.08 [1.01, 1.16]	-
Auvinet 2002 (men 20)	1.6	0.027	2.6%	1.60 [1.55, 1.65]	-
Auvinet 2002 (men 30)	1.5	0.024	2.6%	1.50 [1.45, 1.55]	-
Auvinet 2002 (women 20)	1.5	0.024	2.6%	1.50 [1.45, 1.55]	-
Auvinet 2002 (women 30)	1.6	0.021	2.7%	1.60 [1.56, 1.64]	-
Blanke 1989 (men 30)	1.3	0.052	2.3%	1.30 [1.20, 1.40]	-
Ble 2005 (men 20)	1.31	0.038	2.5%	1.31 [1.24, 1.38]	-
Ble 2005 (men 30)	1.375	0.033	2.5%	1.38 [1.31, 1.44]	-
Ble 2005 (women 20)	1.266	0.044	2.4%	1.27 [1.18, 1.35]	
Ble 2005 (women 30)	1.256	0.027	2.6%	1.26 [1.20, 1.31]	-
Bohannon 1997 (men 20)	1 393	0.04	2.4%	1 39 [1 31 1 47]	
Bohannon 1997 (men 30)	1 458	0.026	2.4%	1 46 [1 41 1 51]	-
Bohannon 1997 (women 20)	1.400	0.020	2.5%	1 41 [1 33 1 48]	
Bohannon 1997 (women 20)	1.407	0.037	2.5%	1 42 [1 26 1 47]	
Bunannon 1997 (wonien 30)	1.410	0.020	2.0%	1.42 [1.30, 1.47]	
Busse 2006 (men 30)	1.556	0.040	2.3%	1.54 [1.44, 1.63]	
Busse 2006 (women 20)	1.499	0.049	2.3%	1.50 [1.40, 1.60]	
Busse 2006 (women 30)	1.381	0.063	2.1%	1.38 [1.26, 1.50]	
Button 2005 (men 20)	1.474	0.033	2.5%	1.47 [1.41, 1.54]	
Button 2005 (men 30)	1.432	0.036	2.5%	1.43 [1.36, 1.50]	-
Button 2005 (women 20)	1.448	0.054	2.2%	1.45 [1.34, 1.55]	
Delval 2006 (men 20)	1.353	0.028	2.6%	1.35 [1.30, 1.41]	
El Haber 2008 (women 20)	1.3	0.032	2.5%	1.30 [1.24, 1.36]	-
El Haber 2008 (women 30)	1.3	0.038	2.5%	1.30 [1.23, 1.37]	
Goble 2003 (men 20)	1.38	0.036	2.5%	1.38 [1.31, 1.45]	
Hageman 1986 (women 30)	1.6	0.044	2.4%	1.60 [1.51, 1.69]	
Haghani 2000 (men 20)	1.44	0.079	1.8%	1.44 [1.29, 1.59]	
Hansen 2004 (women 20)	1.37	0.064	2.1%	1.37 [1.24, 1.50]	
Hollman 2007 (women 20)	1.387	0.04	2.4%	1.39 [1.31, 1.47]	-
Laufer 2003 (men 20)	1.465	0.049	2.3%	1.47 [1.37, 1.56]	
Laufer 2003 (women 20)	1.445	0.043	2.4%	1.45 [1.36, 1.53]	-
Lord 1996 (women 20)	1.38	0.035	2.5%	1.38 [1.31, 1.45]	
Lord 1996 (women 30)	1.32	0.038	2.5%	1.32 [1.25, 1.39]	-
Mills 2001 (men 20)	1.41	0.04	2.4%	1.41 [1.33, 1.49]	-
Oberg 1993 (men 20)	1.23	0.028	2.6%	1.23 [1.18, 1.28]	
Oberg 1993 (men 30)	1.32	0.039	2.5%	1.32 [1.24, 1.40]	-
Oberg 1993 (women 20)	1.24	0.044	2.4%	1.24 [1.15, 1.33]	· · ·
Oberg 1993 (women 30)	1.24	0.049	2.3%	1.28 [1.18 1.38]	
Rogers 2005 (women 20)	1 35	0.05	2.3%	1 35 [1 25 1 45]	
Wilken 2012 (men 2020)	1.55	0.00	2.5%	1 50 [1.20, 1.40]	
Wilken 2012 (women 2030)	1.5	0.010	2.7%	1.50 [1.47, 1.55]	-
winen zorz (women zooo)	1.5	0.02	2.170	1.50 [1.40, 1.54]	
Fotal (95% CI)			100.0%	1.39 [1.36, 1.43]	
Heterogeneity: Tau ² = 0.01; Cl	$hi^2 = 497.04$ dt	f = 40 (F	> < 0.0000	$(1): I^2 = 92\%$	

Quality assessment: AMSTAR checklist

DATA HANDLING

Initial search yielded 60 eligible reviews of which 2 were finally included.

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

Finally, T-scores for both genders together

MEN & WON	ЛEN	VERY LOW	AT RISK		NORMAL	
Reference dat	a					
		0.	8		1.4	
Cut-off conser	nsus stat	ements				
EWGSOP 1 & 2	2 (m/s)	0.8	8			
IWGS (m/s)		1.:	1			
FNIH (m/s)		0.8	8			
VERY LOW		< 0.8 m/s		> tr	reatment	
AT RISK	0.8	m/s < X < 1	.1 m/s	Se	ecundary	prevention
NORMAL		> 1.1 m/s		≻ p	rimary pr	revention

Legend: EWGSOP: European Working Group on Sarcopenia in Older People; IWGS: International Working Group on Sarcopenia; FNIH: Foundation for the National Institutes of Health Sarcopenia



- At this moment, best evidence is available for using gait speed to appraise physical performance in a clinical setting.
- Since for gait speed, robust normative values are available, we recommend the use of gait speed to assess physical performance.
- Different protocols exist to asses gait speed and we recommend the **4m usual gait speed** protocol since this is considered most feasible in a clinical setting.
- We recommend categorizing subjects according to the normative values for healthy young people as presented above.

REFERENCES: Bohannon RW, Williams Andrews A. Normal walking speed: a descriptive meta-analysis. Physiotherapy 2011;97(3):182-9. [PubMed: 21820535], Salbach NM, O'Brien KK, Brooks D, Irvin E, Martino R, Takhar P, et al. Reference values for standardized tests of walking speed and distance: a systematic review. Gait & posture 2015;41(2):341-60. [PubMed: 25542397]