29 novembre 2013
Simposio: HEALTH AGING

Il Progetto integrato SIGG-GLISTEN-ESPEN-SINPE

Francesco LANDI
Centro Medicina dell'Invecchiamento
Università Cattolica del Sacro Cuore, Roma

UNIVERSITÀ CATTOLICA del Sacro Cuore

58 Congresso Nazionale

OBIETTIVI:

- Creare un gruppo di consenso italiano sulla Sarcopenia
- Creare un network con finalità di ricerca scientifica
- Educazione e Formazione sulla valutazione e sull'intervento (con particolare riferimento all'esercizio fisico e alle problematiche nutrizionali)
- Sito web - Newsletter italiana sulla sarcopenia

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Gruppo Lavoro Italiano Sarcopenia – Trattamento e Nutrizione (GLISTEN Group)

❖ Sarcopenia with limited mobility: an international consensus. Morley JE, et al. Society on Sarcopenia, Cachexia and Wasting Disorders Trialist Workshop. **J Am Med Dir Assoc. 2011 Jul;12(6):403-9.**

❖ Toward a definition of sarcopenia. Cederholm TE, et al. **Clin Geriatr Med. 2011 Aug;27(3):341-53.**

❖ International working group on sarcopenia. Chumlea WC, et al. Task Force Members. **J Nutr Health Aging. 2011;15(6):450-5.**

❖ Sarcopenia: an undiagnosed condition in older adults. Current consensus definition: prevalence, etiology, and consequences. International working group on sarcopenia. Fielding RA, et al. **J Am Med Dir Assoc. 2011 May;12(4):249-56.**

❖ Sarcopenia: European consensus on definition and diagnosis: Report of the European Working Group on Sarcopenia in Older People. Cruz-Jentoft AJ, et al. European Working Group on Sarcopenia in Older People. **Age Ageing. 2010 Jul;39(4):412-23.**

❖ Consensus definition of sarcopenia, cachexia and pre-cachexia: joint document elaborated by Special Interest Groups (SIG) "cachexia-anorexia in chronic wasting diseases" and "nutrition in geriatrics". Muscaritoli M, et al. **Clin Nutr. 2010 Apr;29(2):154-9.**

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Age and Ageing 2010; **39:** 412–423
doi: 10.1093/ageing/afq034
Published electronically 13 April 2010

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REPORT

Sarcopenia: European consensus on definition and diagnosis

Report of the European Working Group on Sarcopenia in Older People

ALFONSO J. CRUZ-JENTOFT[1], JEAN PIERRE BAEYENS[2], JÜRGEN M. BAUER[3], YVES BOIRIE[4], TOMMY CEDERHOLM[5], FRANCESCO LANDI[6], FINBARR C. MARTIN[7], JEAN-PIERRE MICHEL[8], YVES ROLLAND[9], STÉPHANE M. SCHNEIDER[10], EVA TOPINKOVÁ[11], MAURITS VANDEWOUDE[12], MAURO ZAMBONI[13]

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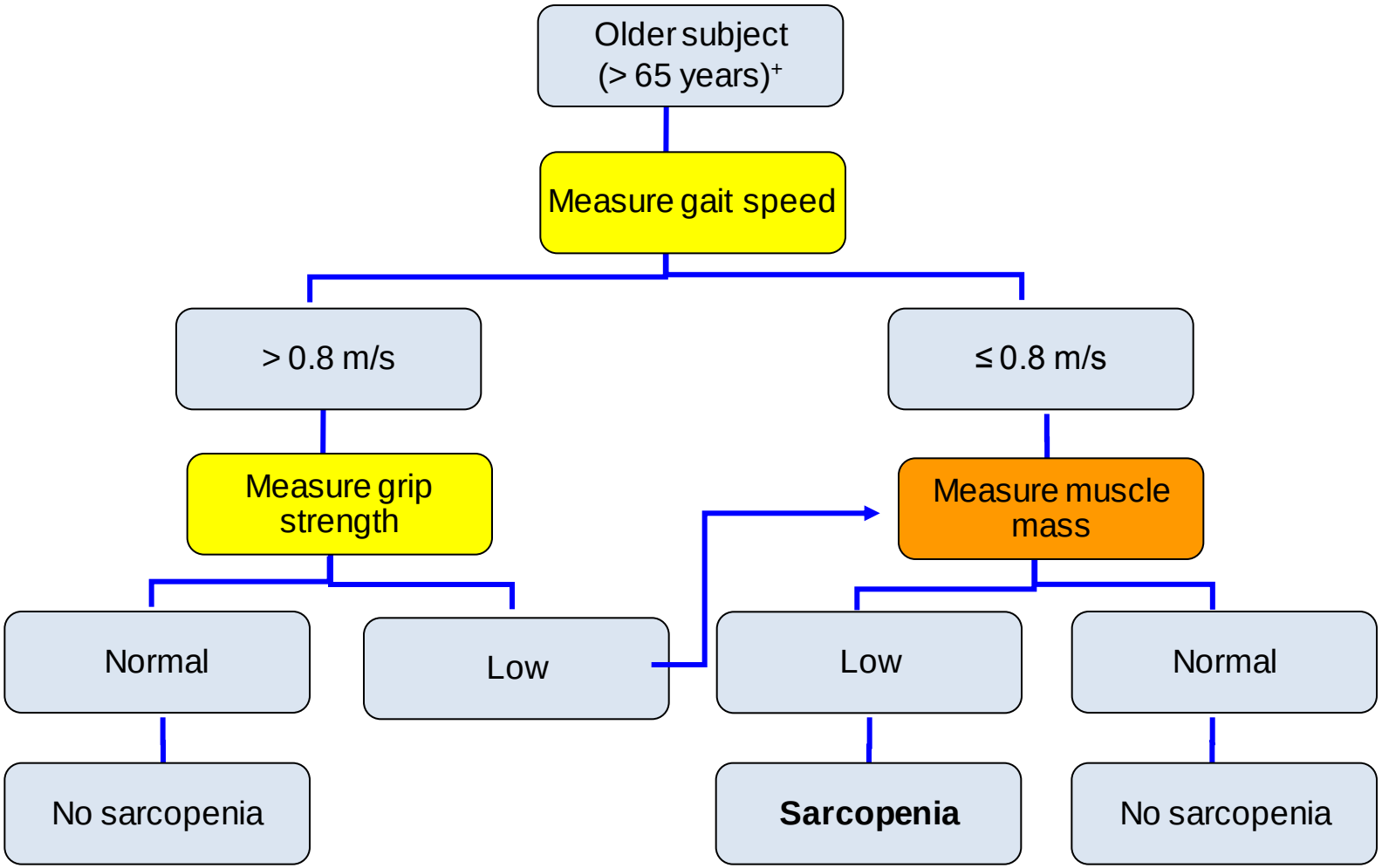
EWGSOP suggested algorithm for sarcopenia case finding in older individuals*



* Sarcopenia: European Consensus on Definition and Diagnosis Report of the European Working Group on Sarcopenia in Older People

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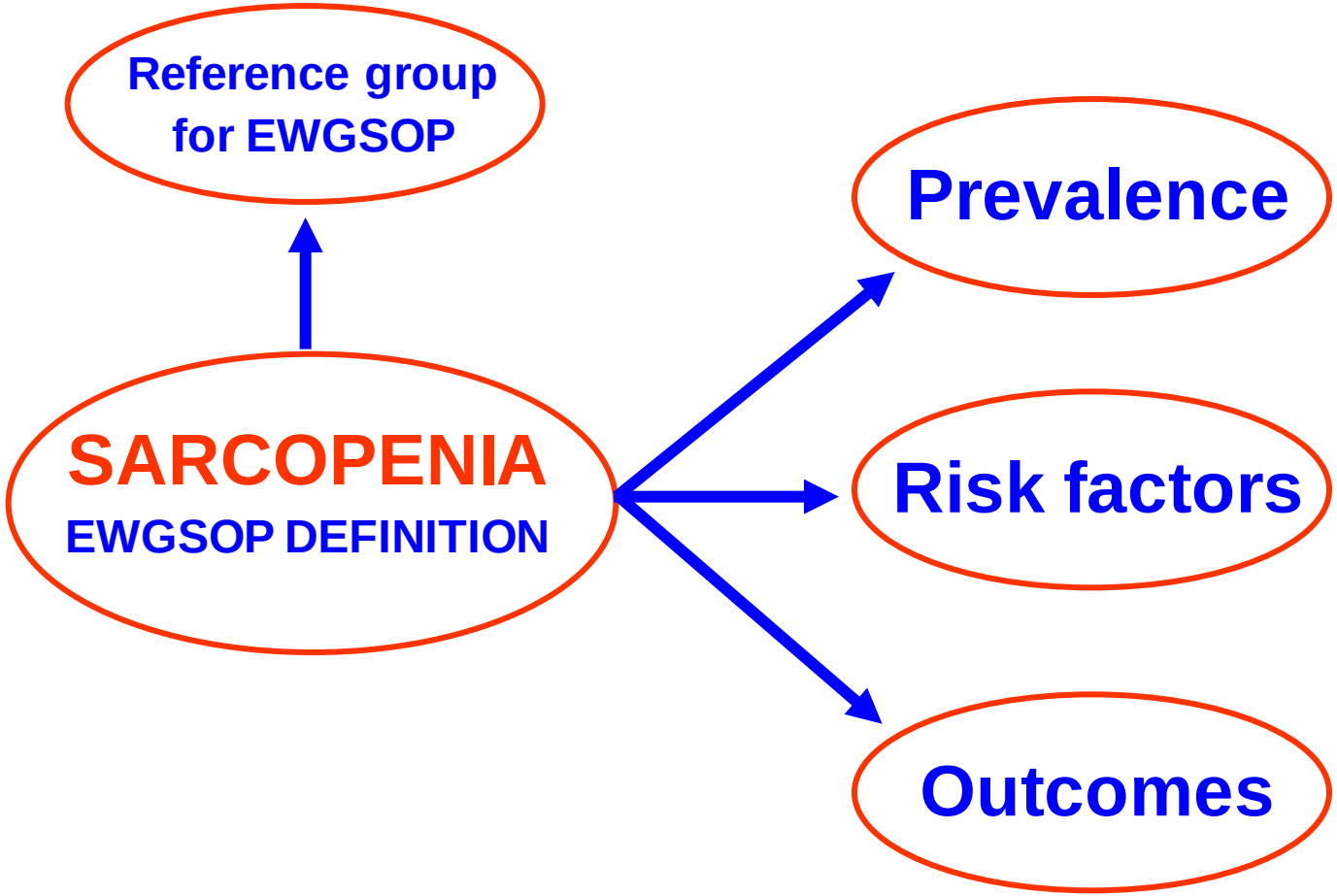
Using sarcopenia EWGSOP definition



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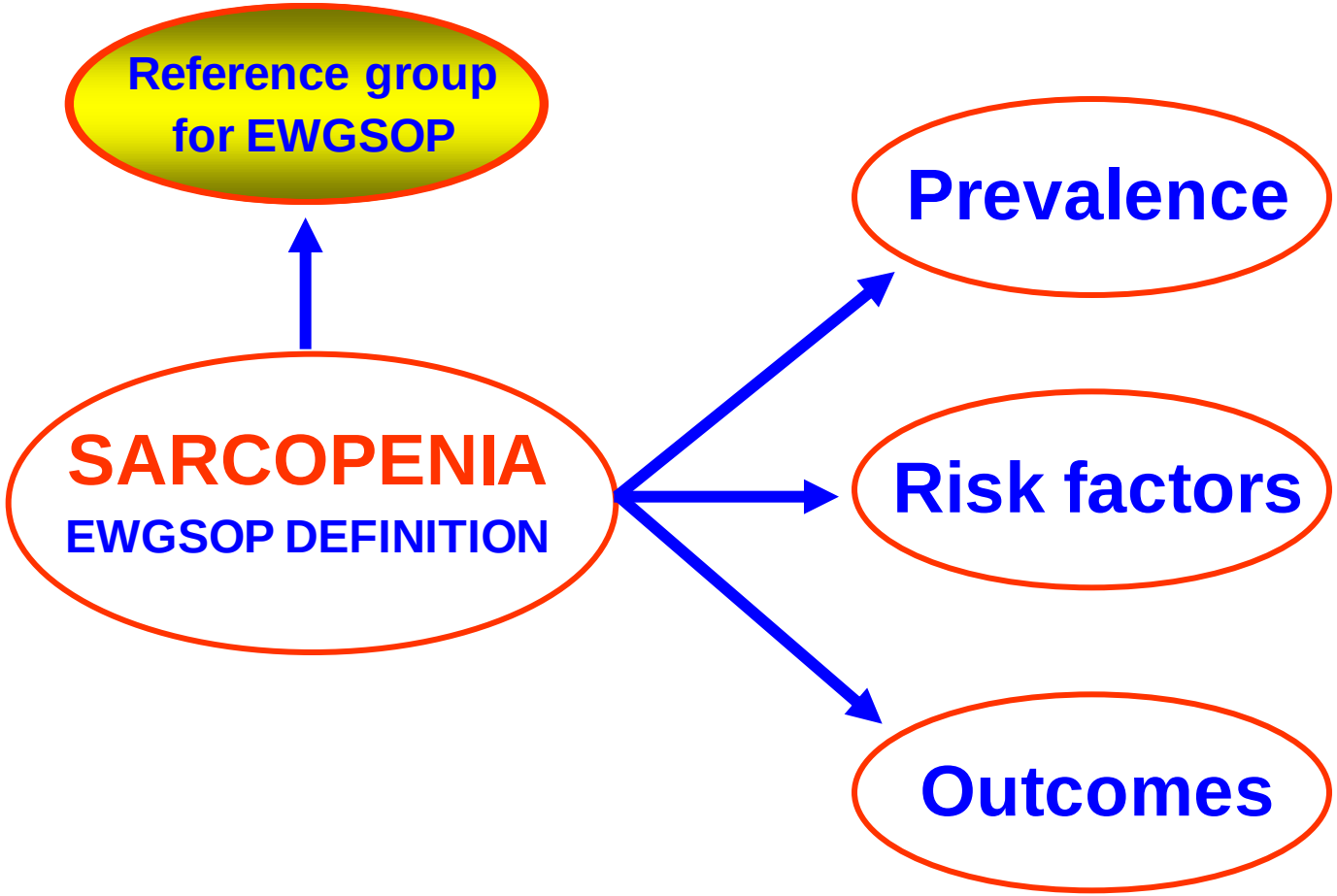
Using sarcopenia EWGSOP definition



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Case finding in adult / older individuals

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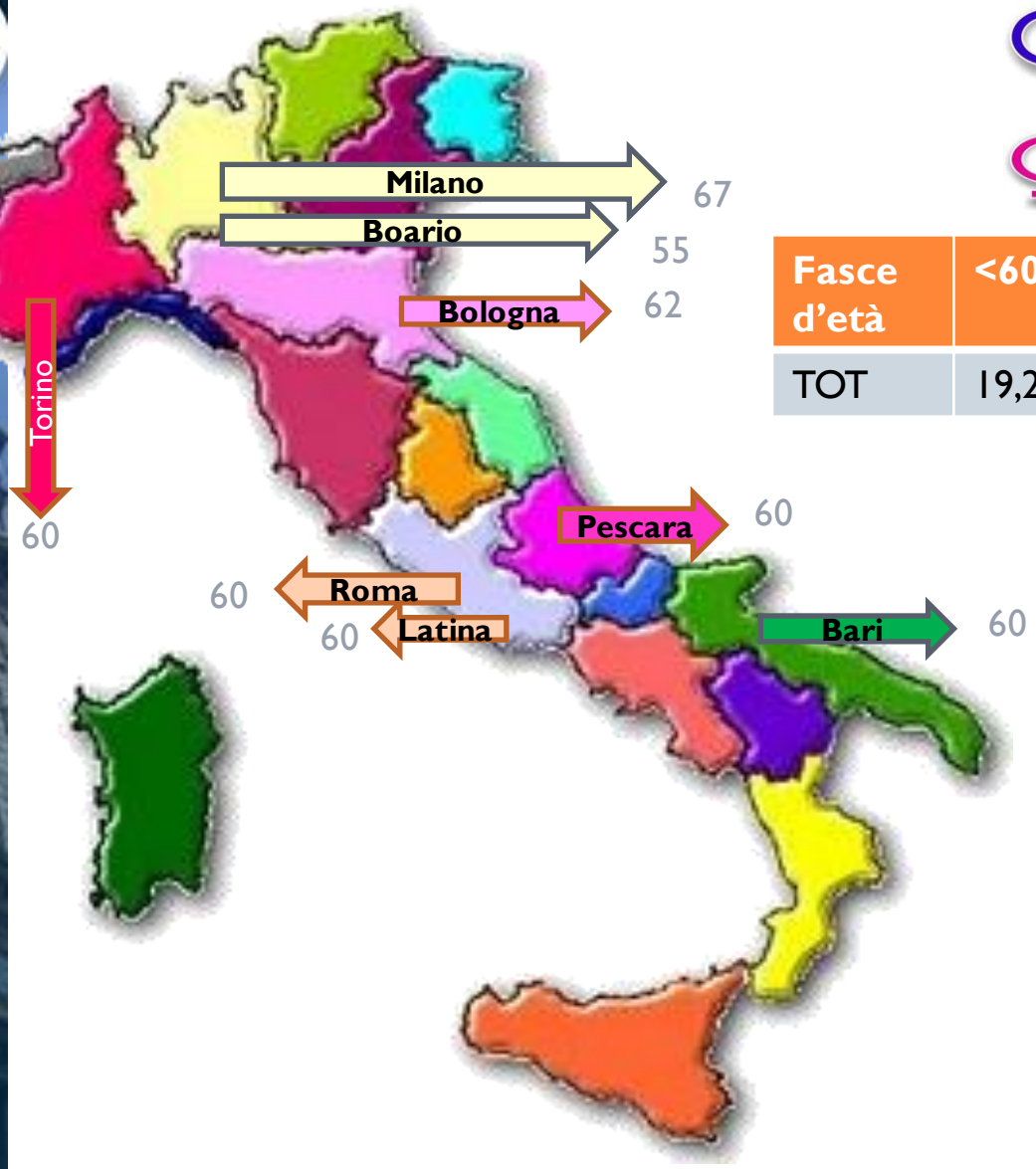
Case finding in adult / older individuals



♂ 56%

♀ 44%

TOTALE: 552 pazienti valutati

Fasce d'età	<60	60-69	70-79	80+
TOT	19,2%	36.8%	32,5%	11,5%

Città	Età media
TO	63,76
MI	67,52
BOARIO	67,93
BO	61,47
PE	72,28
BA	65,24
RM	71,22
LT	68

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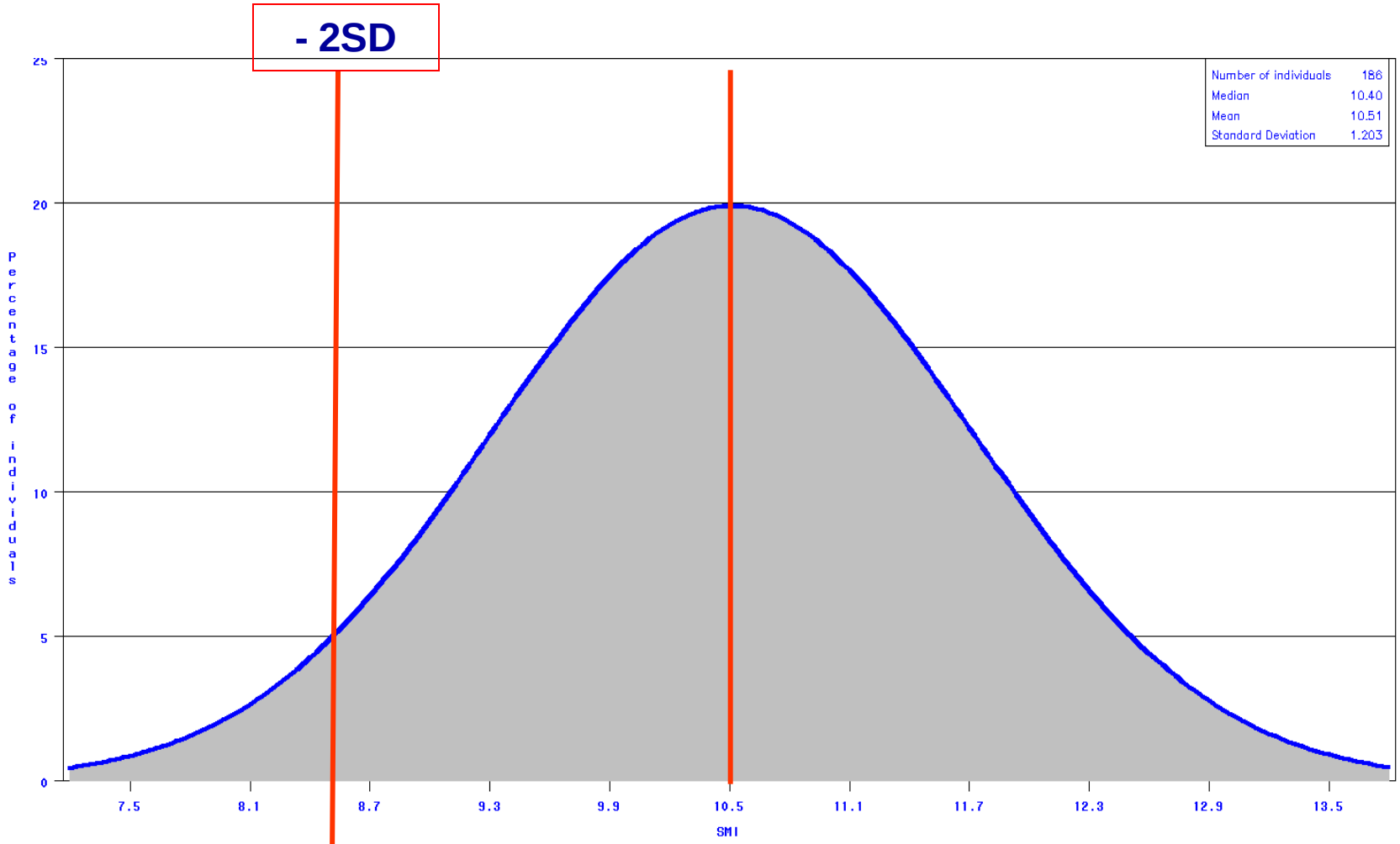
SMI Distribution– Male 40-70 years



8.65 kg/m² → **8.87 kg/m², Janssen cut-off**

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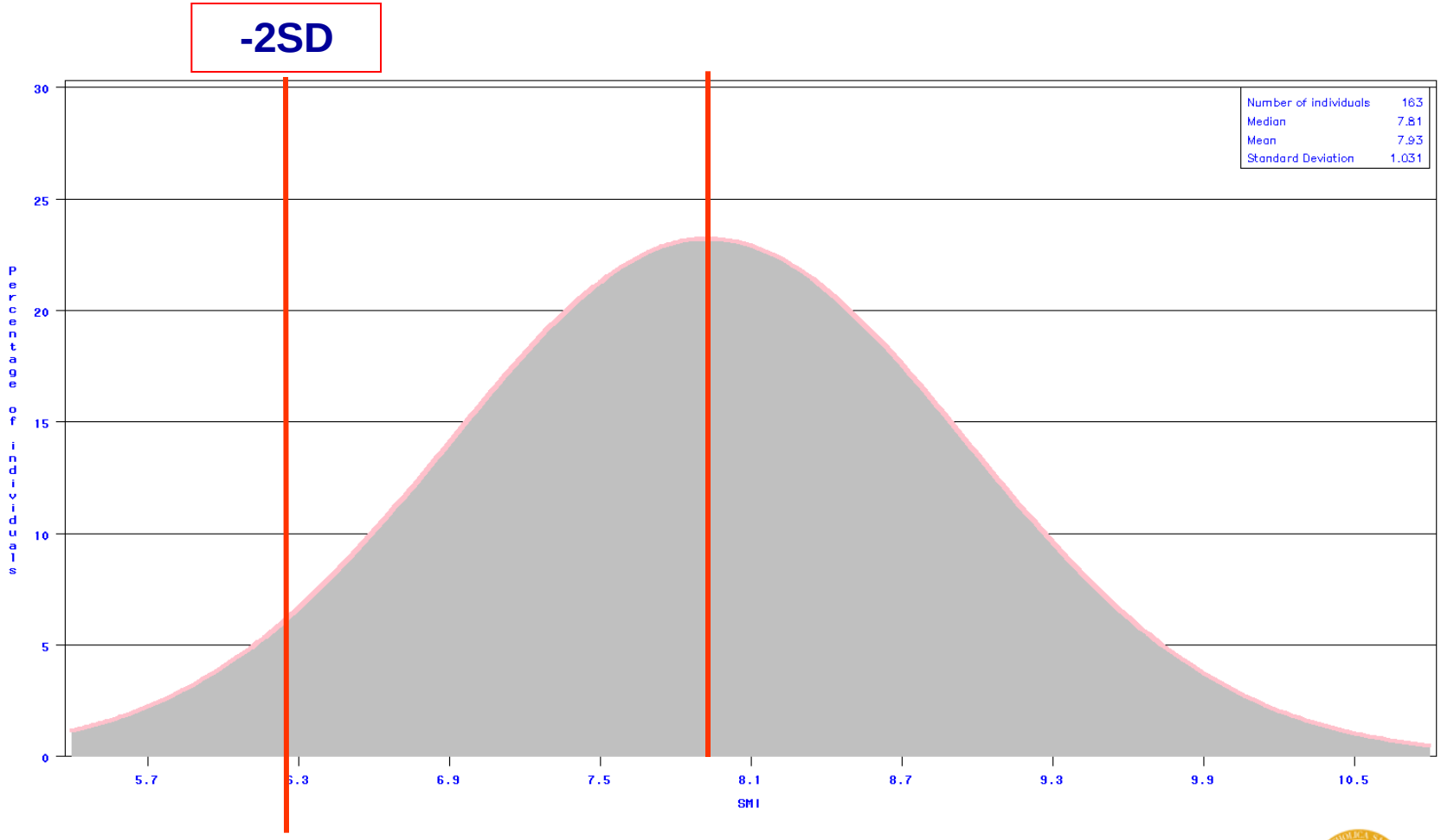
SMI Distribution – Female 40-70 years



8.25 kg/m² → **6.42 kg/m², Janssen cut-off**

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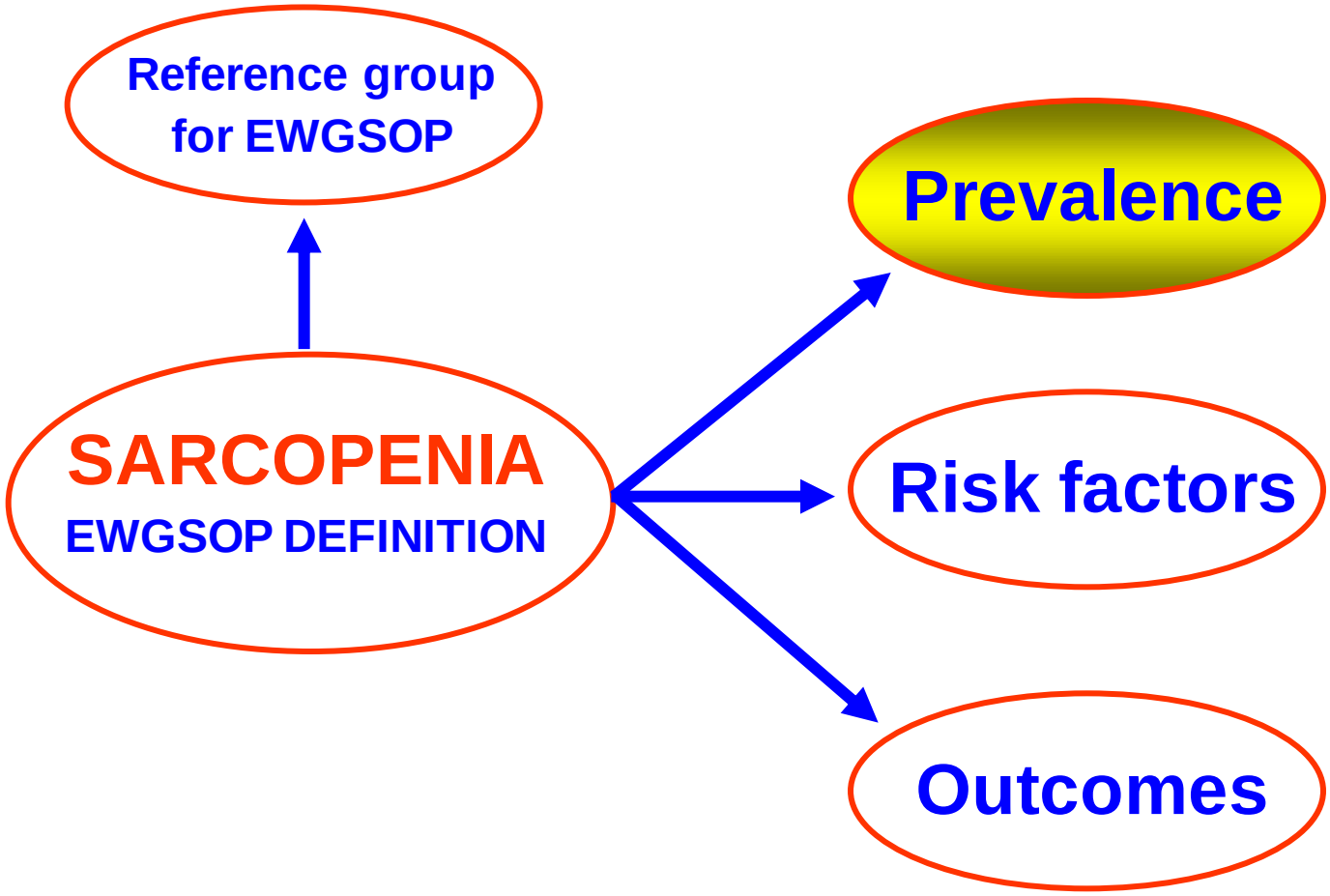
Using sarcopenia EWGSOP definition



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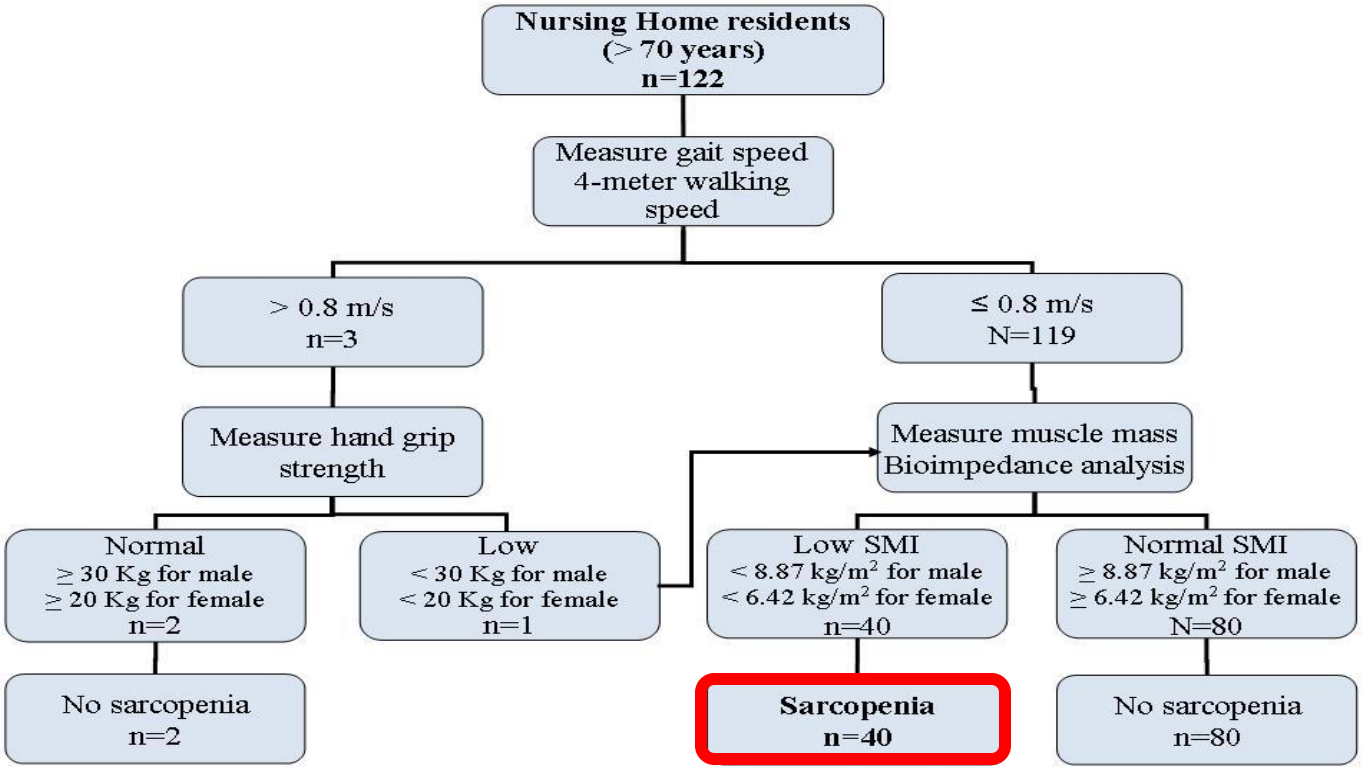
Sarcopenia in Nursing Home

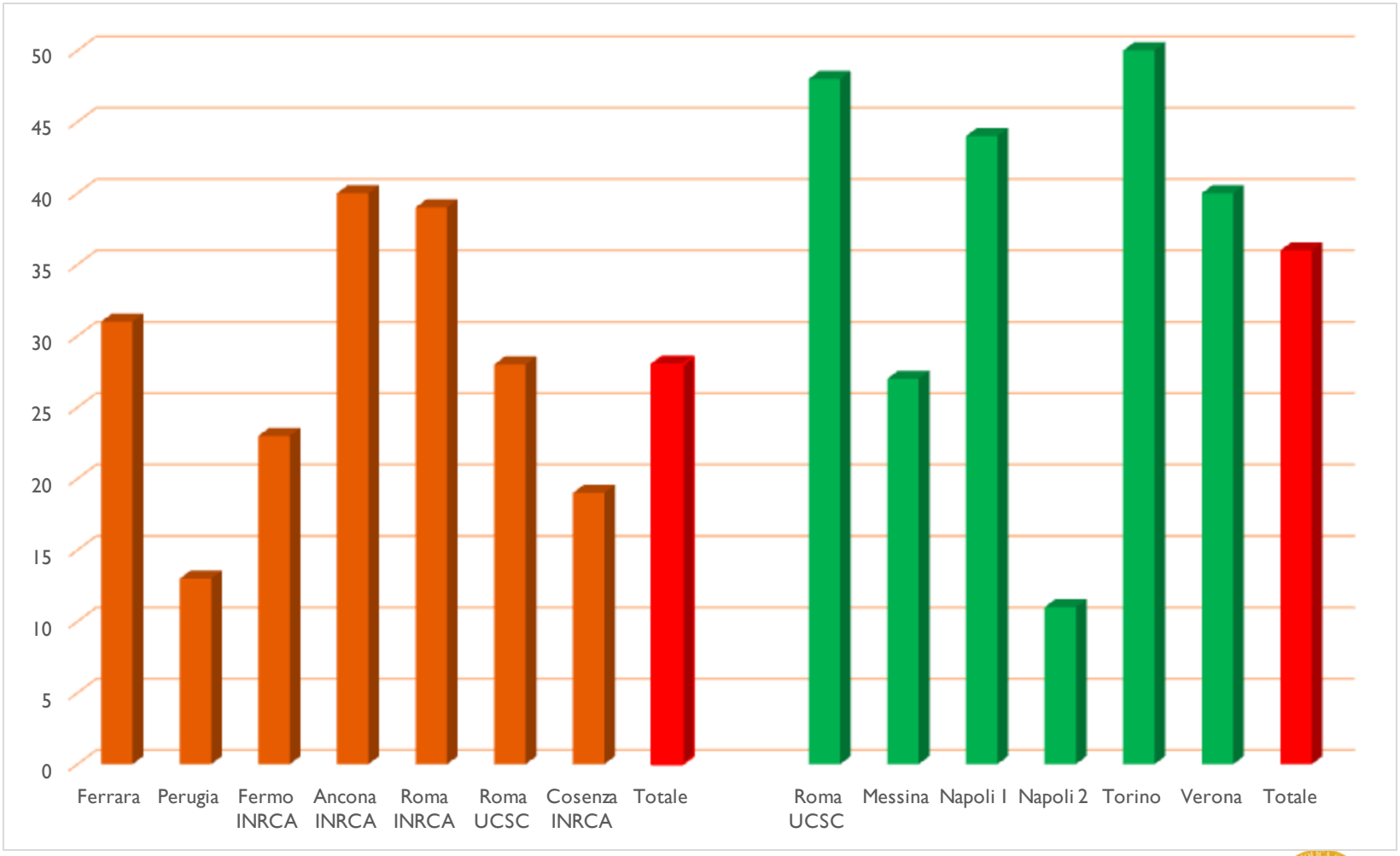
Prevalence and Risk Factors of Sarcopenia Among Nursing Home Older Residents

Francesco Landi,[1] Rosa Liperoti,[1] Domenico Fusco,[2] Simona Mastropaolo,[1] Davide Quattrociocchi,[1] Anna Proia,[2] Andrea Russo,[2] Roberto Bernabei,[1] and Graziano Onder[1]



J Gerontol A Biol Sci Med Sci. 2012 Jan;67(1):48-55.

Sarcopenia in Hospital



GLISTEN Data

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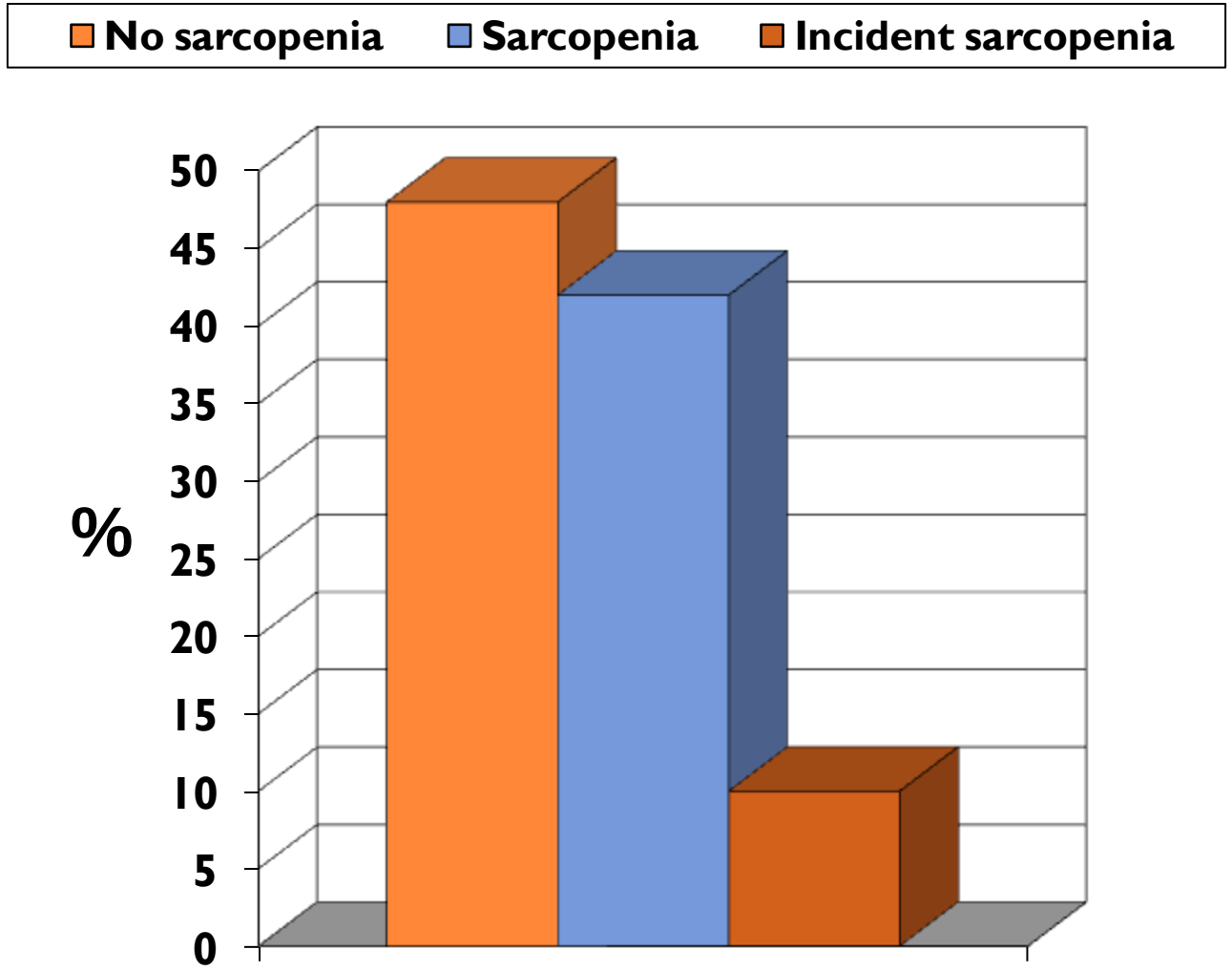
Incident sarcopenia in Hospital



GLISTEN Data

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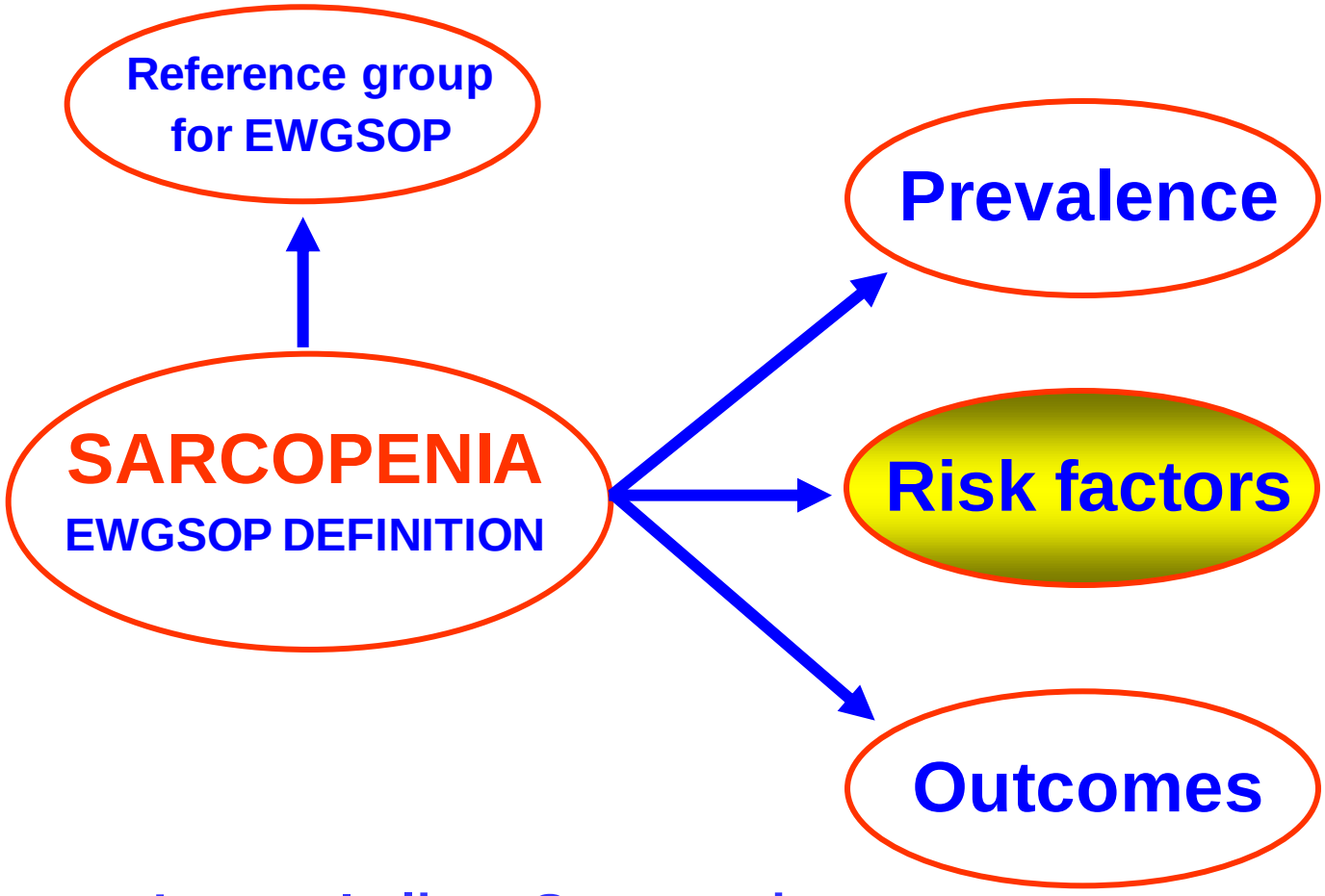
Using sarcopenia EWGSOP definition



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Risk factor for sarcopenia

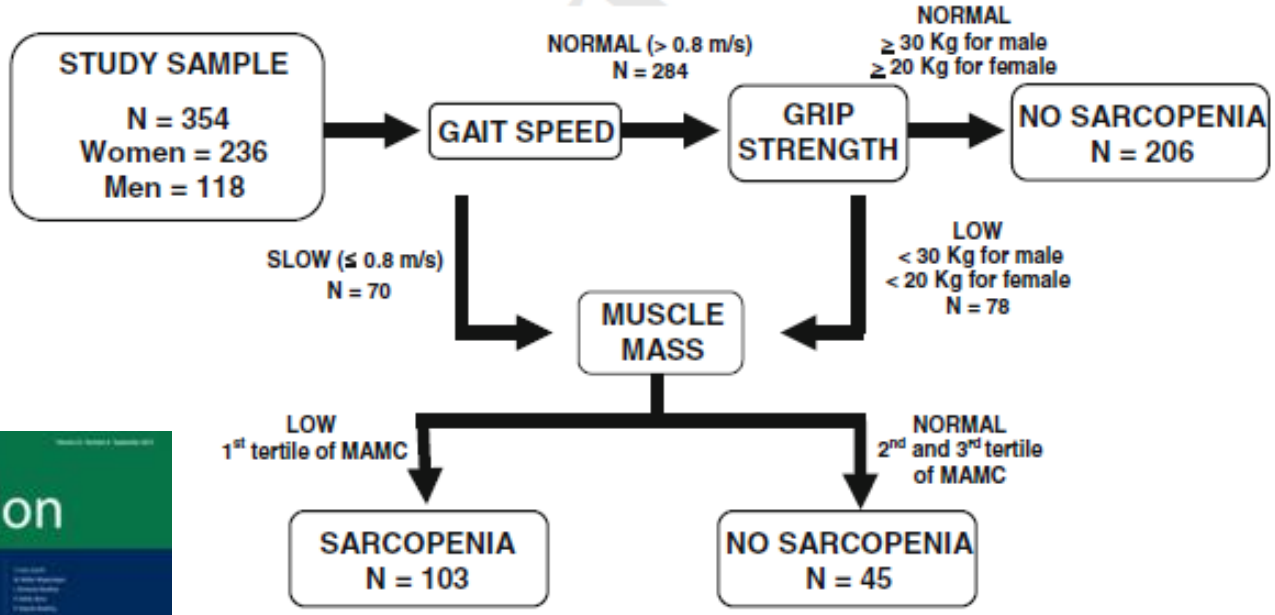
Variable	Univariate Odds Ratio (95% CI)	*p*	Adjusted Model* Odds Ratio (95% CI)	*p*
Age, y				
70–80	1.0 (referent)		1.0 (referent)	
≥80	0.97 (0.92–1.02)	.31	0.96 (0.88–1.04)	.33
Gender				
Female	1.0 (referent)		1.0 (referent)	
Male	7.95 (3.21–19.71)	<.001	13.39 (3.51–50.63)	<.001
Length of stay in facility	0.98 (0.97–1.00)	.93	0.99 (0.97–1.01)	.49
Compromised ADL function†	1.20 (1.01–1.42)	.03	1.15 (0.87–1.51)	.31
Impaired cognitive performance‡	0.98 (0.81–1.19)	.87	0.97 (0.63–1.51)	.91
Specific diseases				
Dementia	0.44 (0.20–0.96)	.04	0.31 (0.16–1.69)	.18
Parkinson's diseases	2.23 (0.67–7.43)	.18	5.56 (0.91–23.86)	.06
Cerebrovascular diseases	2.40 (1.02–5.67)	.04	5.16 (1.03–25.87)	.04
Chronic obstructive pulmonary disease	2.68 (0.83–8.60)	.09	2.03 (0.27–14.99)	.48
Cancer	3.24 (0.52–20.24)	.24	2.49 (0.11–23.37)	.56
Osteoarthritis	2.11 (1.01–4.55)	.05	7.24 (2.02–25.95)	<.01
Body mass index, kg/m^2				
<21	1.0 (referent)		1.0 (referent)	
>21	0.90 (0.82–0.99)	.03	0.76 (0.64–0.90)	<.01
Leisure physical activity				
Never or less than 1 h/d	1.0 (referent)		1.0 (referent)	
1 h or more per day	0.37 (0.12–0.99)	.05	0.40 (0.12–0.98)	.05

Landi F et al. J Gerontol A Biol Sci Med Sci 2012;67:48-55.

Risk factor for sarcopenia

Association of anorexia with sarcopenia in a community-dwelling elderly population: results from the *il*SIRENTE study

Francesco Landi · Rosa Liperoti · Andrea Russo · Silvia Giovannini · Matteo Tosato · Christiana Barillaro · Ettore Capoluongo · Roberto Bernabei · Graziano Onder



F. Landi et al. Eur J Nutr 2012

Risk factor for sarcopenia

Association between anorexia and sarcopenia, after adjustment for various confounders

	Unadjusted Risk of sarcopenia	Model 1	Model 2	Model 3
	Odds ratios [95 % confidence interval]			
Anorexia	2.67 [1.57–4.56]	2.46 [1.42–4.27]	2.01 [1.09–3.68]	1.88 [1.01–3.51]
Age		1.10 [1.05–1.15]	1.05 [0.99–1.11]	1.05 [0.99–1.11]
Gender (female)		1.11 [0.66–1.86]	0.99 [0.57–1.73]	1.05 [0.58–1.90]
ADL impairment			1.16 [0.97–1.38]	1.13 [0.94–1.35]
IADL impairment			0.99 [0.83–1.19]	0.98 [0.81–1.19]
Cognitive impairment			1.04 [0.84–1.28]	1.03 [0.83–1.29]
Physical activity			0.54 [0.26–1.10]	0.54 [0.25–1.14]
Urinary incontinence			0.79 [0.73–4.39]	1.85 [0.74–4.60]
Comorbidity				1.08 [0.85–1.37]
Congestive heart failure				1.38 [0.48–3.95]
COPD				1.35 [0.61–3.00]
Depression				0.96 [0.50–1.82]
Anticholinergic drugs				1.39 [0.78–2.47]
TNF-α				1.04 [0.93–1.16]

PROOF

European Journal of Nutrition

F. Landi et al. Eur J Nutr 2012

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Drugs and sarcopenia

ELSEVIER

JAMDA

journal homepage: www.jamda.com

Original Study

Nonsteroidal Anti-Inflammatory Drug (NSAID) Use and Sarcopenia in Older People: Results From the ilSIRENTE Study

Francesco Landi MD, PhD [a,*], Emanuele Marzetti MD, PhD [a], Rosa Liperoti MD, MPH [a], Marco Pahor MD [b], Andrea Russo MD, PhD [a], Anna Maria Martone MD [a], Giuseppe Colloca MD [a], Ettore Capoluongo BSc, PhD [c], Roberto Bernabei MD [a]

[a] *Department of Geriatrics, Neurosciences, and Orthopedics, Catholic University of the Sacred Heart, Rome, Italy*
[b] *Department of Aging and Geriatric Research, University of Florida, Gainesville, FL*
[c] *Institute of Biochemistry and Clinical Biochemistry, Catholic University of the Sacred Heart, Rome, Italy*

PROOF

Landi F. et al. J Am Med Dir Assoc 2013.

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Drugs and sarcopenia

Association Between NSAID Use and Sarcopenia, After Adjustment for Various Confounders

	Unadjusted	Model 1	Model 2	Model 3
	Risk of Sarcopenia Odds Ratios (95% Confidence Interval)			
NSAIDs use	0.21 (0.07–0.61)	0.22 (0.07–0.64)	0.27 (0.09–0.81)	0.26 (0.08–0.81)
Age		1.10 (1.05–1.15)	1.06 (1.01–1.12)	1.05 (1.00–1.11)
Gender, female		1.23 (0.74–2.06)	1.06 (0.61–1.82)	1.14 (0.65–2.01)
Cognitive impairment			1.05 (0.88–1.24)	1.07 (0.90–1.28)
Physical activity			0.40 (0.23–0.71)	0.40 (0.22–0.74)
Comorbidity				0.84 (0.65–1.08)
Congestive heart failure				2.11 (0.75–5.88)
COPD				2.04 (0.94–4.41)
Osteoarthritis				1.65 (0.80–3.39)

COPD, chronic obstructive pulmonary disease.

Landi F. et al. J Am Med Dir Assoc 2013.

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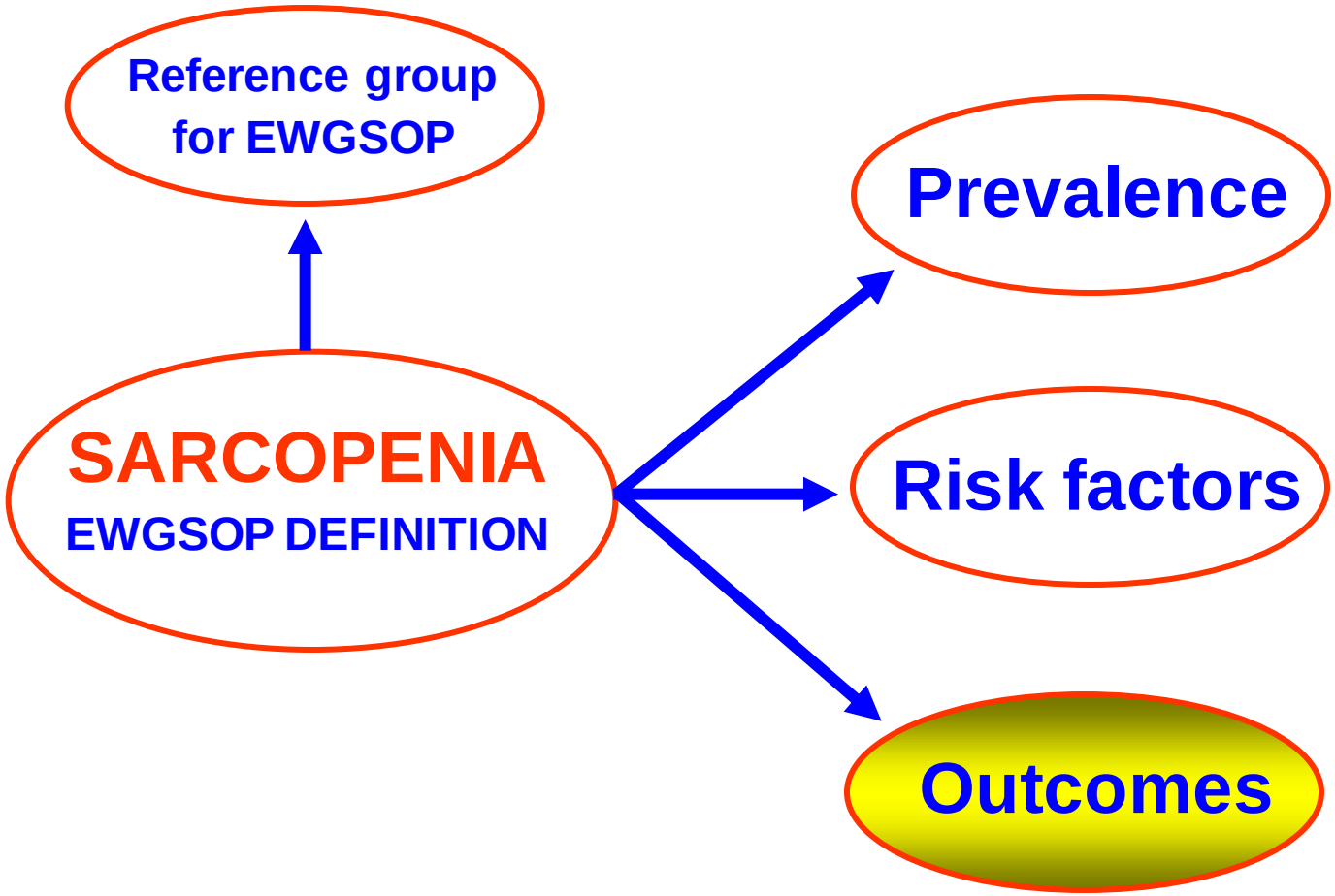
Using sarcopenia EWGSOP definition



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Sarcopenia and falls

Contents lists available at SciVerse ScienceDirect

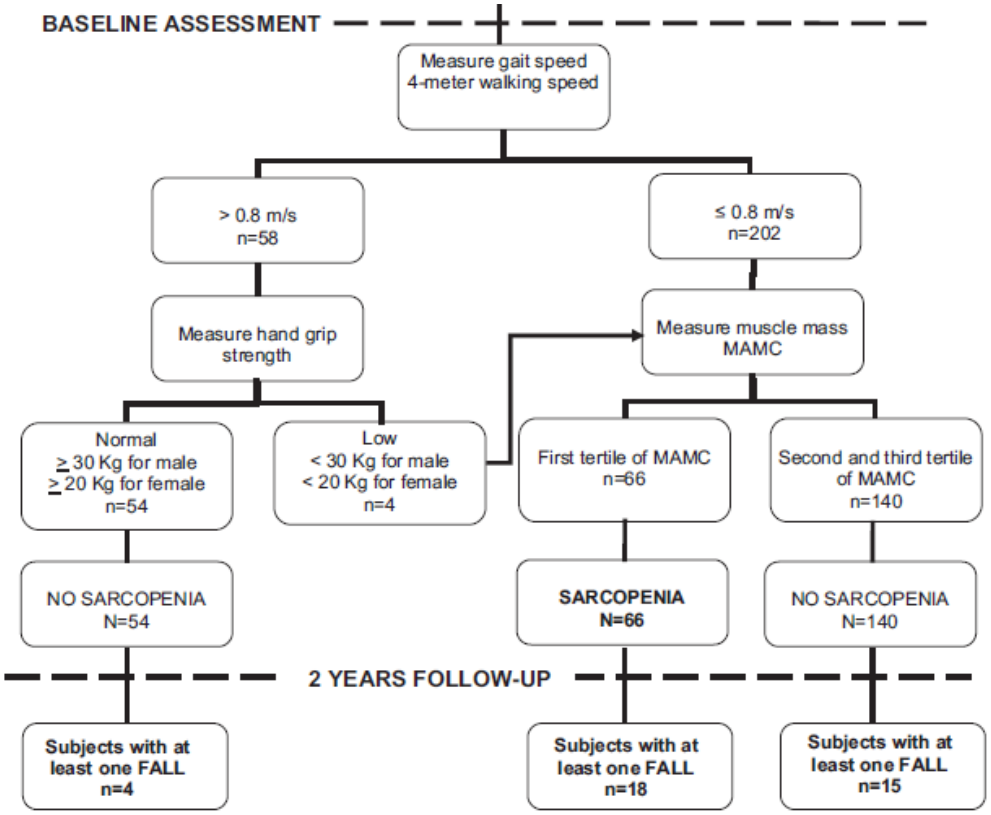
Clinical Nutrition

journal homepage: http://www.elsevier.com/locate/clnu

Original article

Sarcopenia as a risk factor for falls in elderly individuals: Results from the ilSIRENTE study

Francesco Landi [a,*], Rosa Liperoti [a], Andrea Russo [a], Silvia Giovannini [a], Matteo Tosato [a], Ettore Capoluongo [b], Roberto Bernabei [a], Graziano Onder [a]



Landi F, et al. Clinical Nutrition, 2013

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Sarcopenia and falls

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Effect of sarcopenia on the risk of incident falls (hazard ratios and 95% confidence intervals).

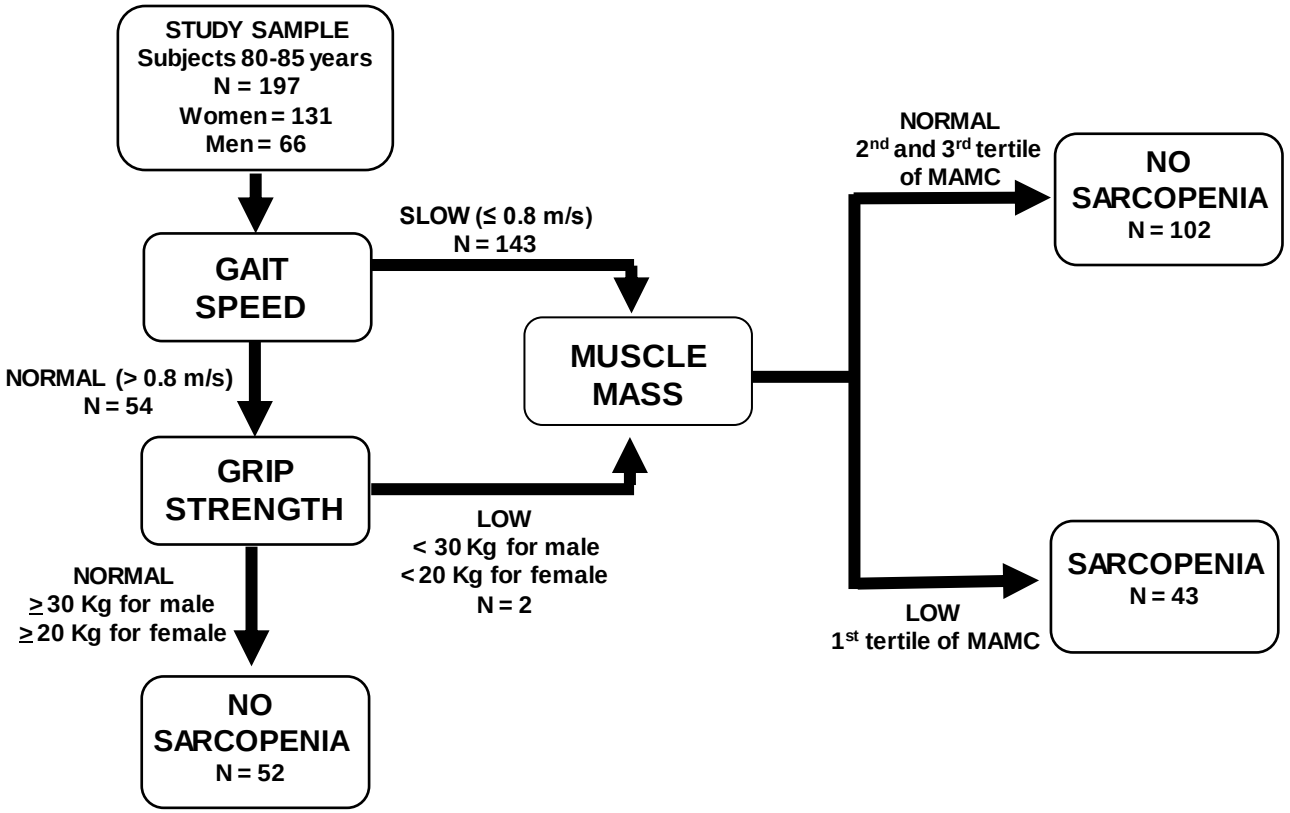
	Unadjusted	Model 1	Model 2	Model 3
	Hazard ratio (95% confidence interval)			
Sarcopenia	3.45 (1.68–7.09)	3.25 (1.54–6.88)	2.55 (1.06–6.14)	3.23 (1.25–8.29)
Age		1.02 (0.93–1.13)	1.01 (0.92–1.10)	1.04 (0.94–1.14)
Gender (female)		2.19 (0.98–6.53)	2.79 (1.00–7.76)	3.94 (1.97–9.99)
Cognitive impairment (CPS)			1.22 (0.90–1.66)	1.21 (0.86–1.71)
ADL impairment			1.01 (0.78–1.31)	0.94 (0.78–1.27)
Hearing impairment			1.94 (0.71–5.30)	1.91 (0.63–5.74)
Vision impairment			0.73 (0.27–1.97)	0.86 (0.31–2.42)
Body mass index (BMI)			0.99 (0.91–1.08)	0.98 (0.89–1.09)
Depression			1.24 (0.50–3.08)	1.10 (0.42–2.91)
Physical activity			0.86 (0.30–2.39)	1.18 (0.39–3.54)
Cholesterol			0.99 (0.98–1.00)	1.00 (0.98–1.01)
Stroke				2.35 (1.92–3.10)
Diabetes				1.35 (0.53–3.43)
Number of medications				1.14 (0.92–1.42)
Reactive C protein				1.11 (0.98–1.26)

Landi F, et al. Clinical Nutrition, 2013

Sarcopenia and Mortality in community

Sarcopenia and mortality risk in frail older persons aged 80 years and older: results from ilSIRENTE study

Francesco Landi[1,2], Alfonso J. Cruz-Jentoft[3,†], Rosa Liperoti[1,†], Andrea Russo[1], Silvia Giovannini[1], Matteo Tosato[1], Ettore Capoluongo[4], Roberto Bernabei[1], Graziano Onder[1]



Landi F, et al. Age and Ageing, 2013

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Sarcopenia and Mortality in community

Association between sarcopenia and All-Cause Mortality, after Adjustment for Various Confounders

	Unadjusted	Model 1	Model 2	Model 3
	Hazard Ratio (95% Confidence Interval)			
Sarcopenia	2.95 (1.44-6.04)	2.89 (1.40-5.96)	2.40 (1.07-5.42)	2.32 (1.01-5.43)
Age		1.15 (0.93-1.42)	1.08 (0.85-1.36)	1.12 (0.87-1.43)
Gender (female)		0.55 (0.29-1.03)	0.49 (0.25-0.99)	0.49 (0.23-1.04)
Education			0.87 (0.72-1.04)	0.87 (0.72-1.05)
ADL impairment			1.91 (1.29-2.83)	1.75 (1.20-2.56)
Body mass index (BMI)			0.92 (0.86-0.99)	0.93 (0.86-1.01)
Hypertension				0.60 (0.26-1.35)
Congestive Heart Failure				6.71 (0.70-64.1)
COPD				1.46 (0.50-4.21)
Number of diseases				1.29 (0.92-1.80)
TNF-α				0.99 (0.85-1.15)

Landi F, et al. Age and Ageing, 2013

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Sarcopenia and Mortality in hospital

Association between sarcopenia and All-Cause Mortality during hospitalization and after one year

Mortality	Events		Unadjusted Model		Age and Gender Adjusted Model		Totally Adjusted Model †	
		p	HR	95% C.I.	HR	95% C.I.	HR	95% C.I.
In-Hospital								
No Sarcopenia	12/556 (2 %)	0.007	1	-	1	-	1	-
Sarcopenia	10/214 (6 %)		3.19	1.38 – 7.38	3.00	1.23 – 7.28	3.38	1.37 – 8.37
One Year								
No Sarcopenia	66/474 (14 %)	< 0.001	1	-	1	-	1	-
Sarcopenia	47/176 (26 %)		2.12	1.45 – 3.10	1.56	1.10 – 2.30	1.64	1.10 – 2.51

Table 1. Association between sarcopenia and mortality according to Cox proportional regression models.

† Adjusted for: *age, gender, smoking habit, living alone, compromised activities of daily living, body mass index, infectious diseases, chronic kidney disease and Charlson Comorbidity Index.*

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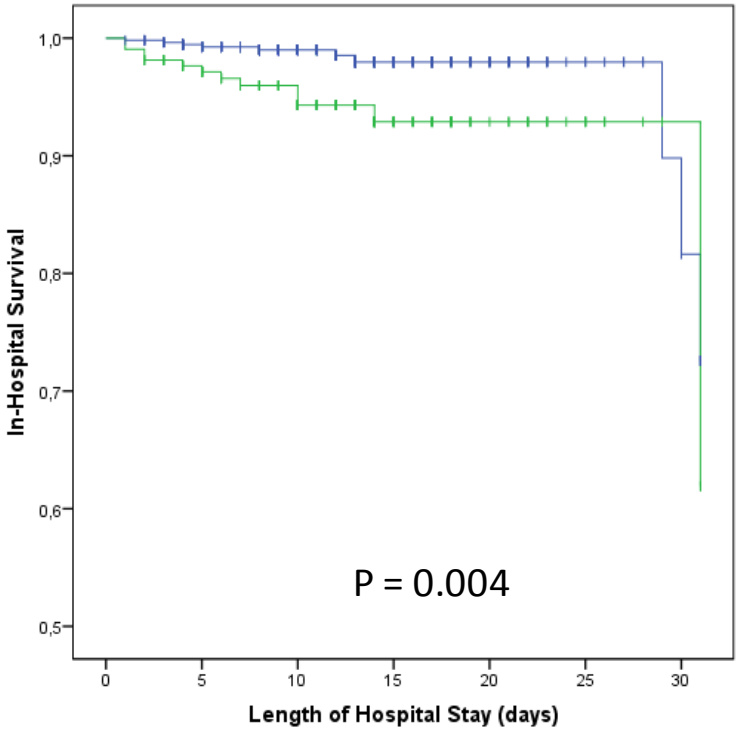
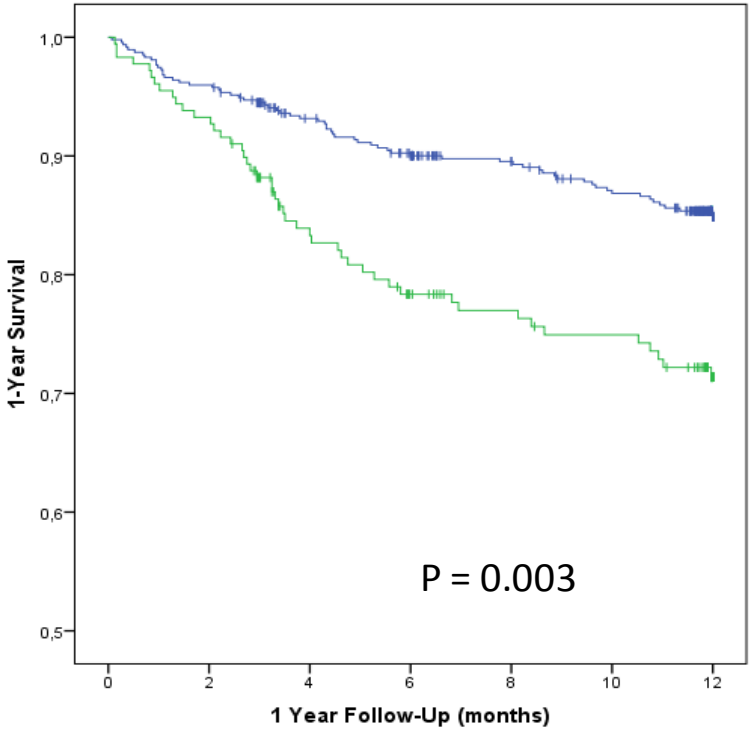
Sarcopenia and Mortality in hospital

Association between sarcopenia and All-Cause Mortality during hospitalization and after one year





770 in-hospital patients

No Sarcopenia

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Sarcopenia and Media

SKY Sport 2 HD
Dal 13 Novembre
Mercoledì, ore 8.45
10 puntate

Congresso Nazionale 58

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Sarcopenia and Media

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Sarcopenia and Media

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Sarcopenia and Media