



Invecchiamento e sedentarietà

Vincenzo Di Francesco

Geriatrics dO AOUI Verona

Seminario

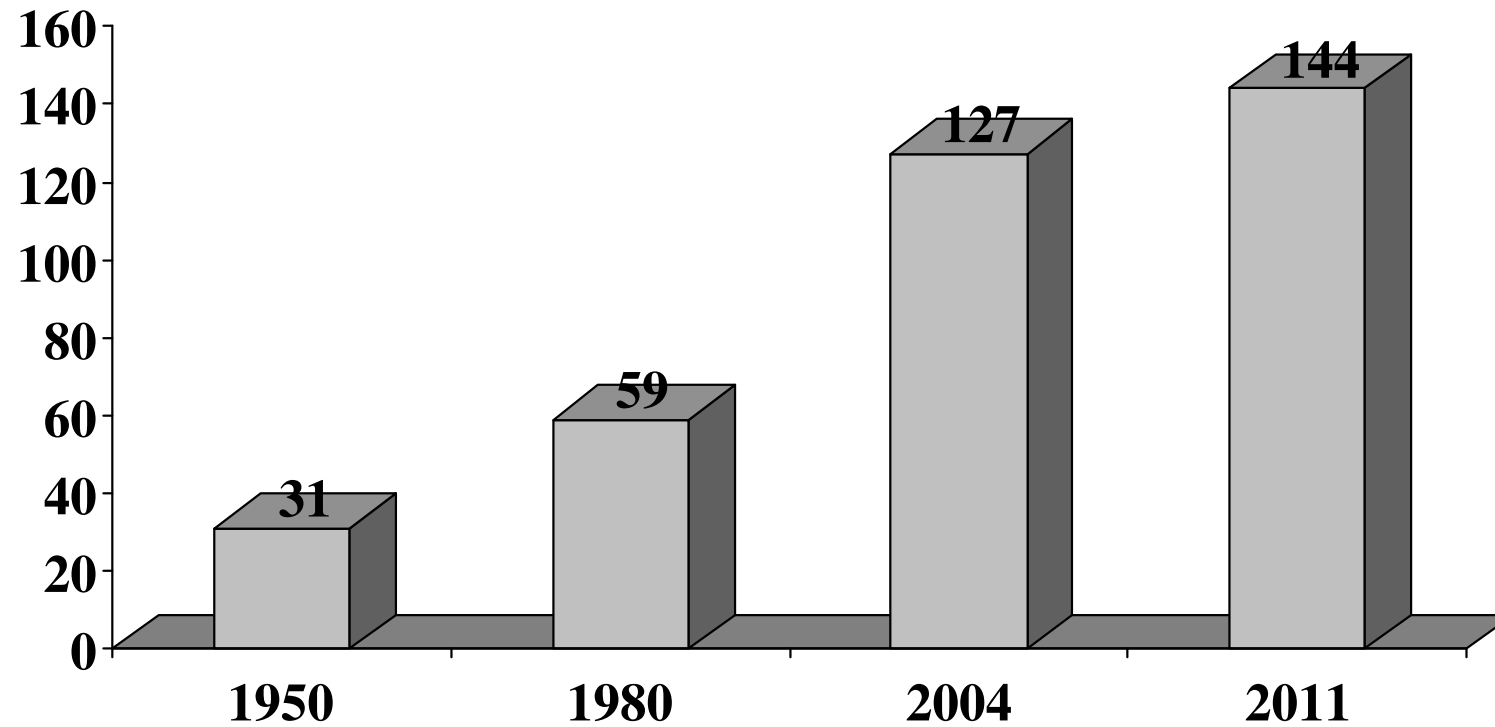
**INVECCHIARE
IN TRENTINO:
AGGIUNGERE
ANNI ALLA VITA
E VITA AGLI ANNI**

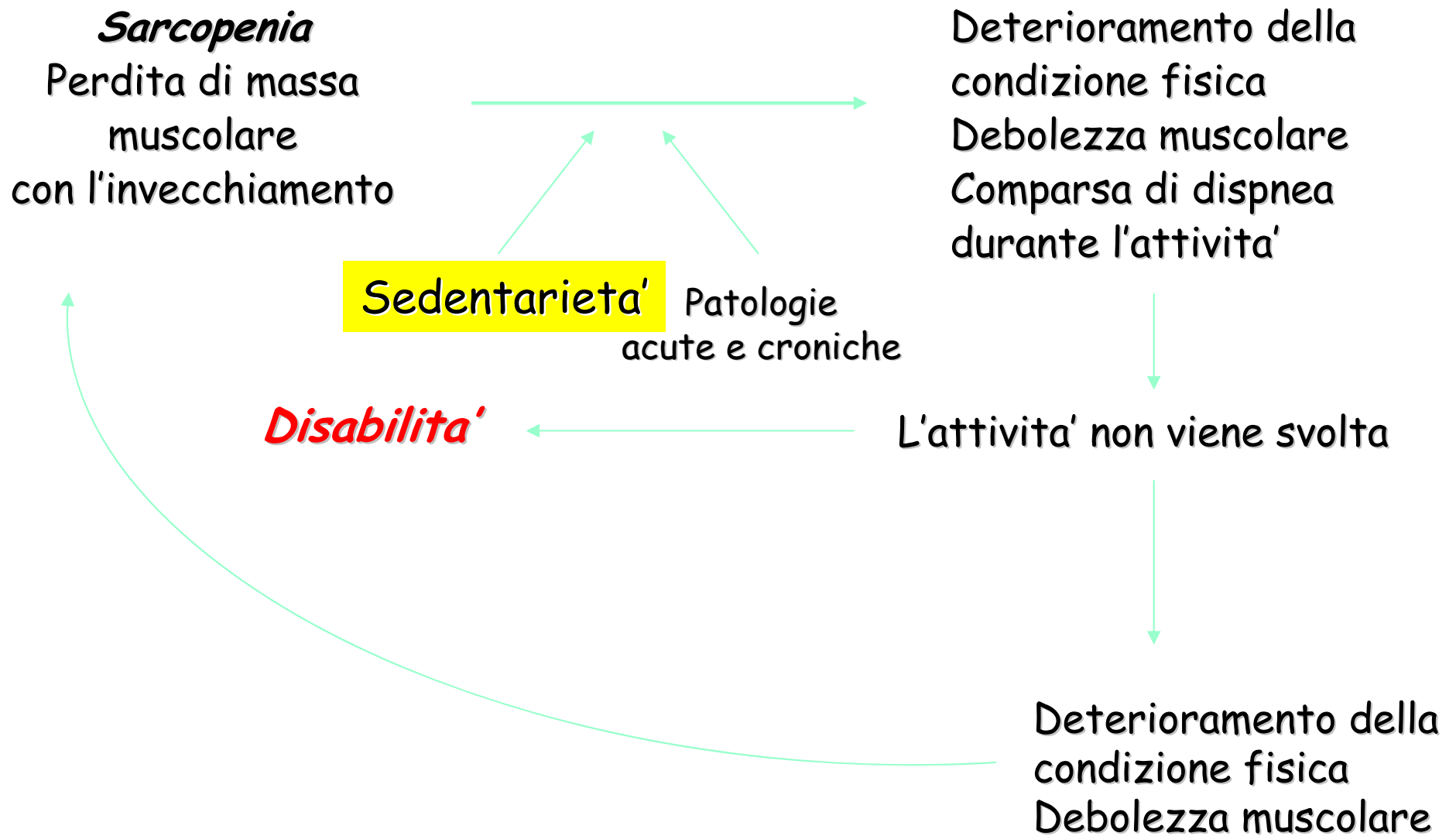
Auditorium
Centro Servizi sanitari
Trento, Viale Verona
mercoledì 4 dicembre 2013

A graphic illustration at the bottom of the poster shows two purple silhouettes of people walking towards a large, stylized orange sun with rays. The sun is positioned in the upper right, and the figures are in the lower left, suggesting a path towards light and vitality.

L'indice di vecchiaia in Italia

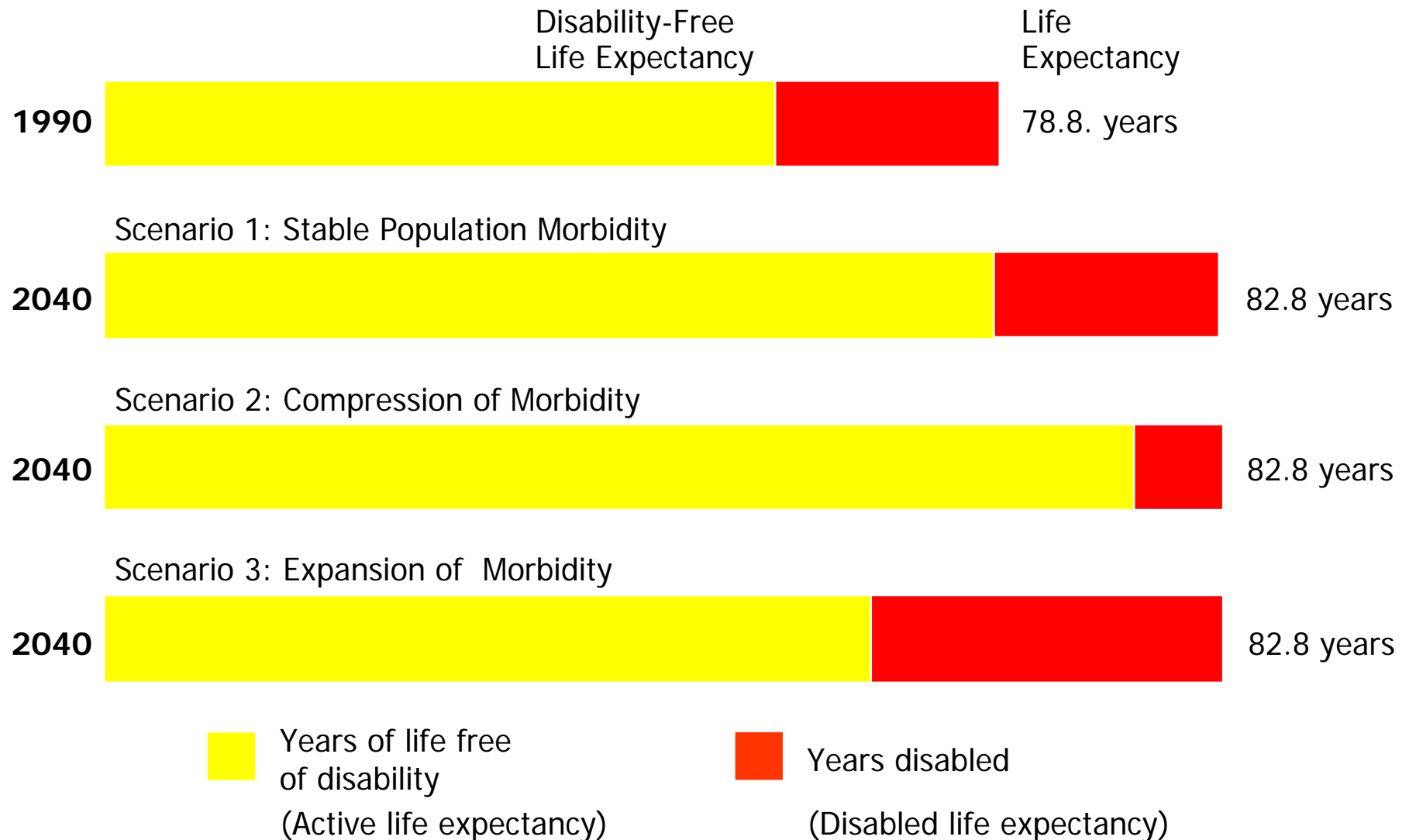
(Istat, 2012)

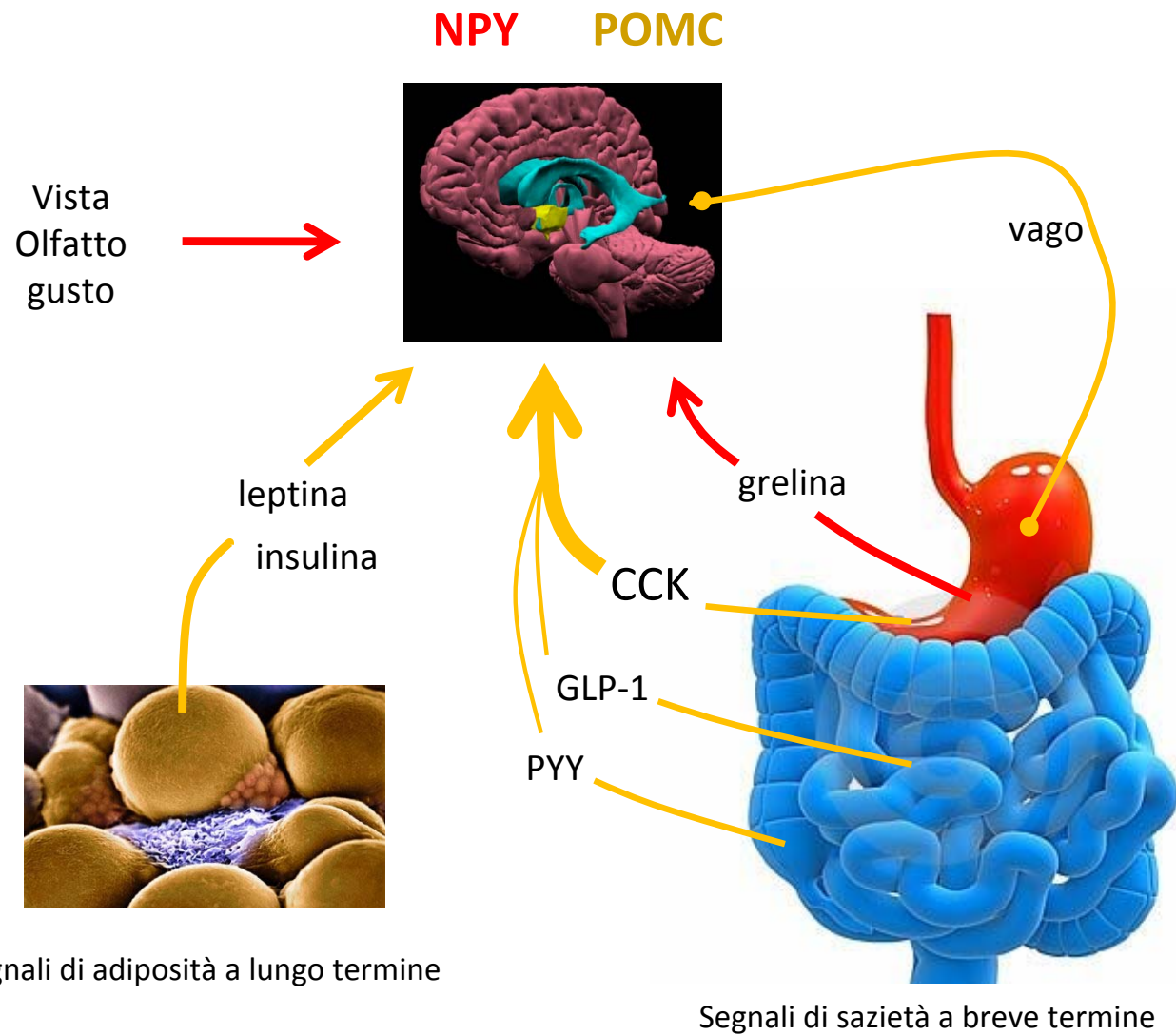




da M Zamboni

Scenarios for Change in Population Burden of Disability from 1990 to 2040

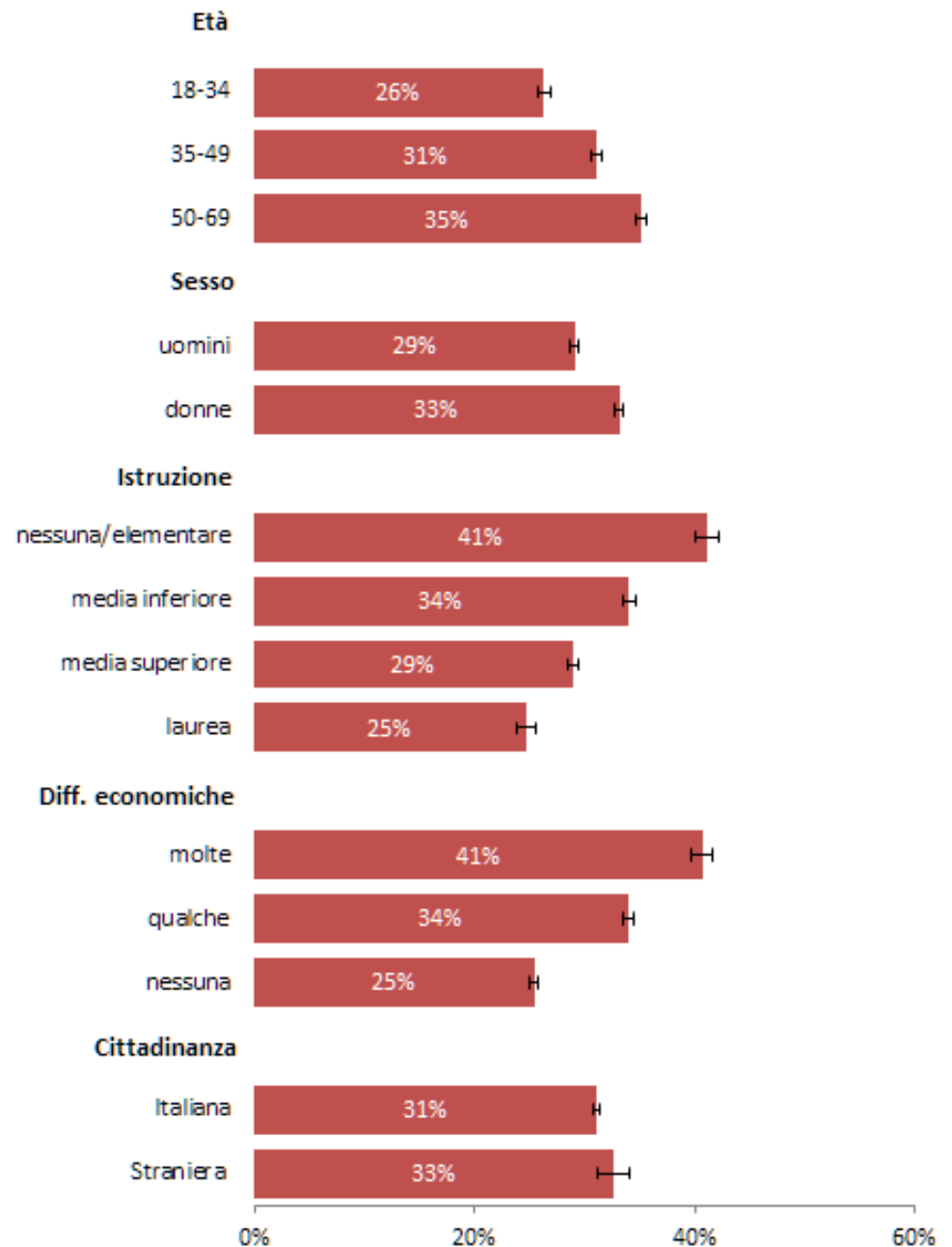




Rappresentazione schematica del controllo dell'introito energetico. In rosso i segnali oressigeni che spingono a consumare cibo, in giallo i segnali anoressigeni, di sazietà. Nell'anziano è stata dimostrata la riduzione degli stimoli oressigeni e l'aumento dei segnali di sazietà sia a breve che a lungo termine.

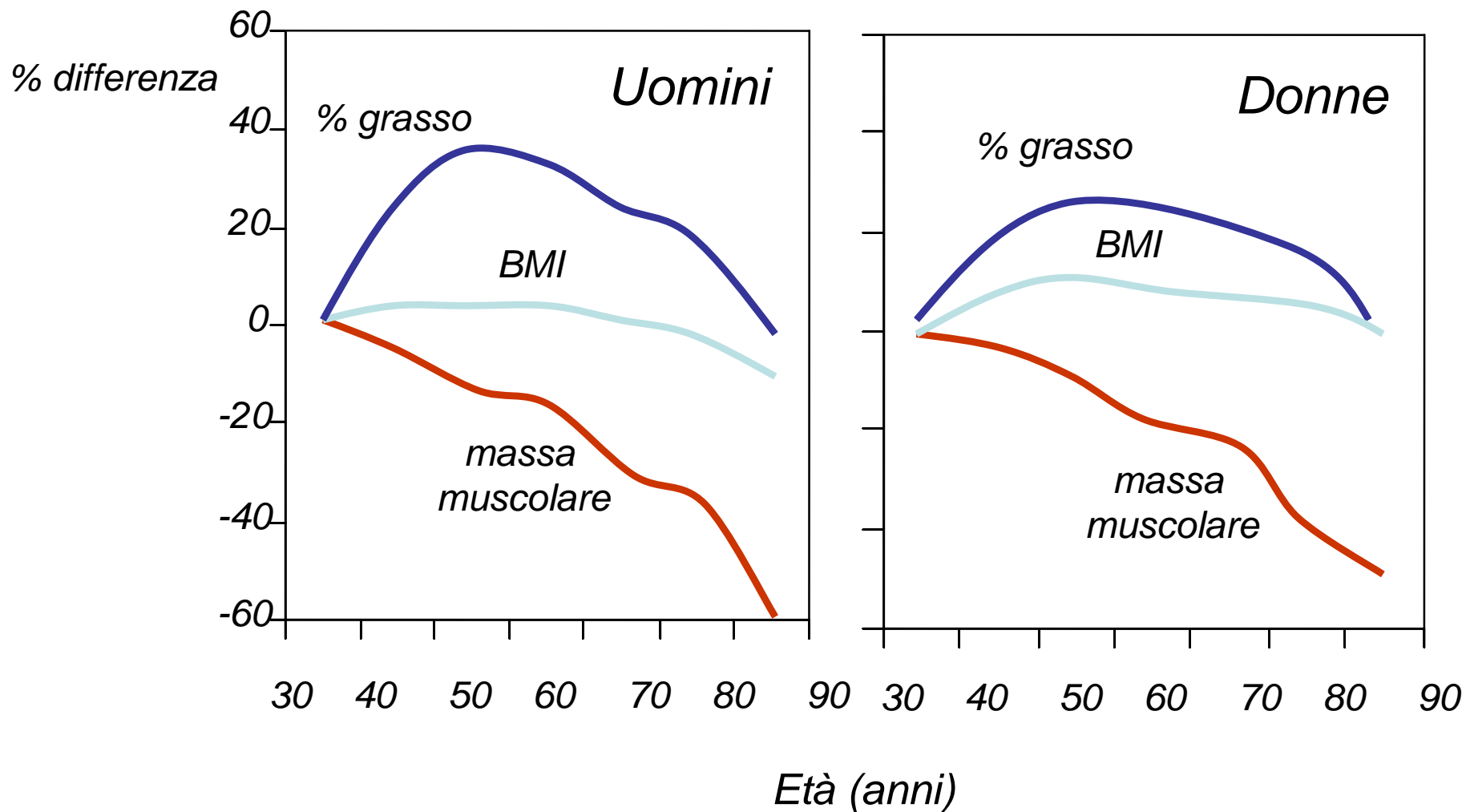
Sedentari in Italia

Prevalenze per caratteristiche socio-demografiche
Passi 2009-2012 (n=147.020)



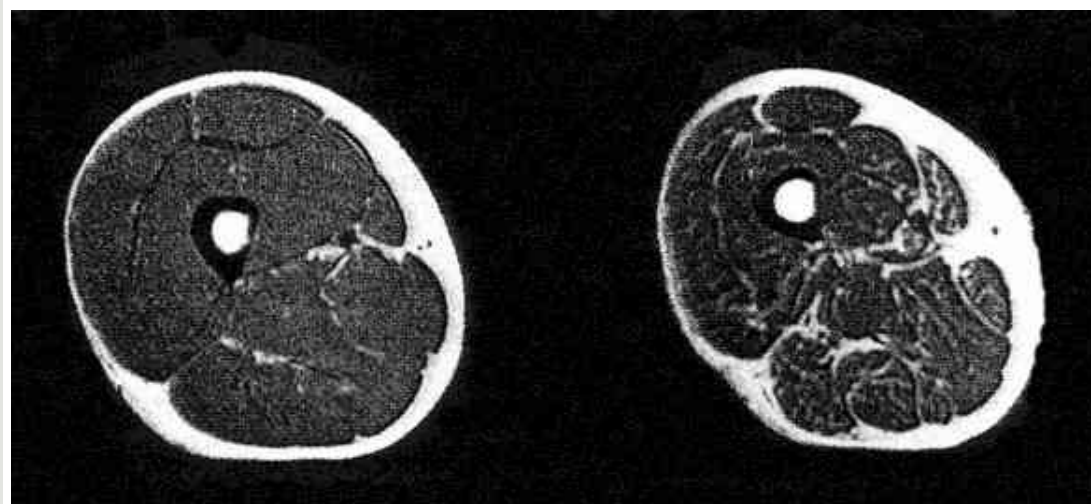
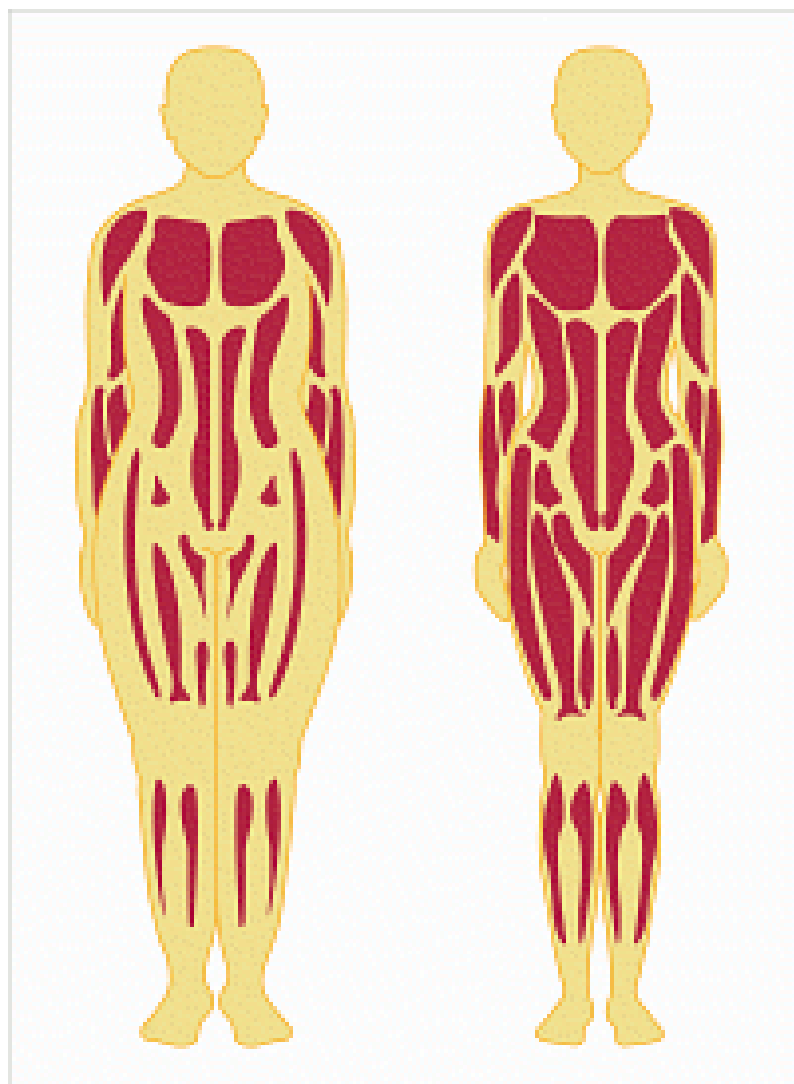
Effetto dell'invecchiamento su BMI, percentuale di grasso corporeo e massa muscolare in uomini e donne

(BLSA, analisi trasversale)



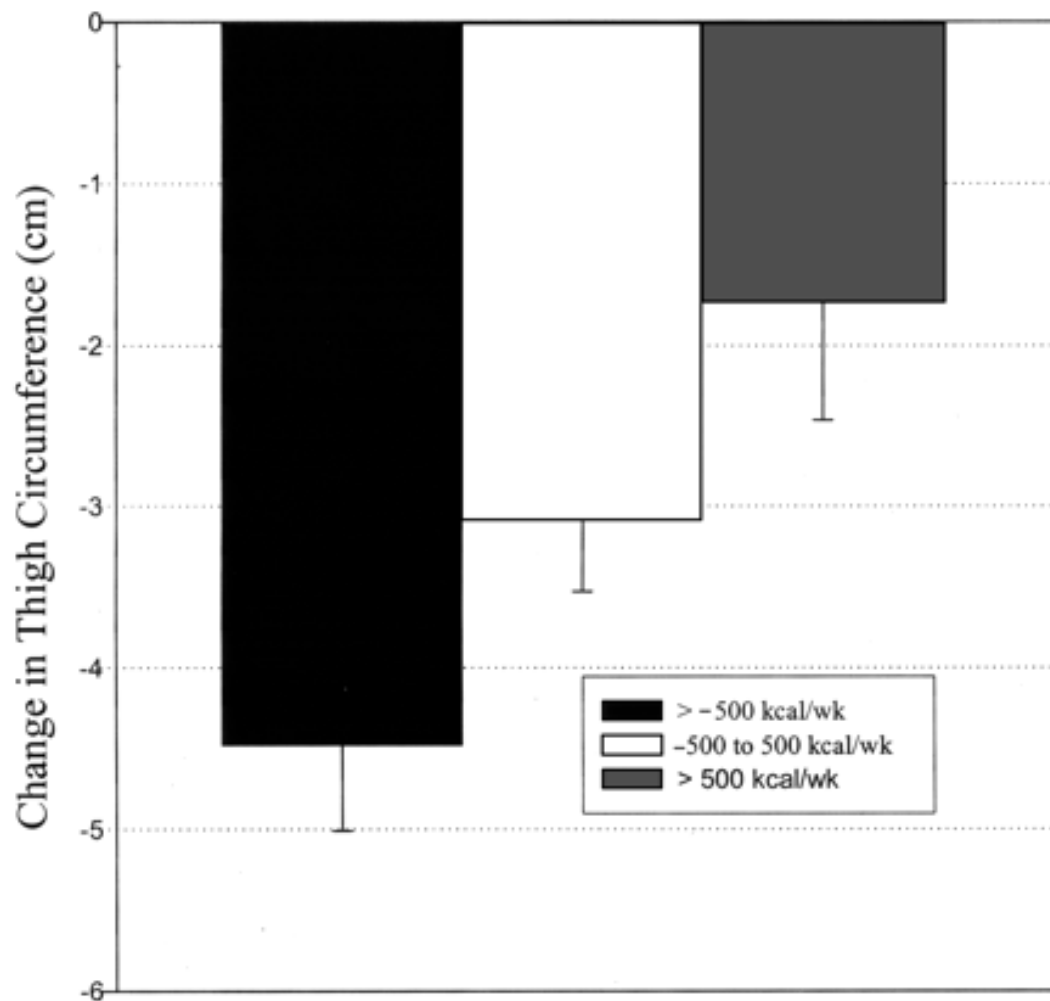
Muller et al, 1994

Obesità Sarcopenica

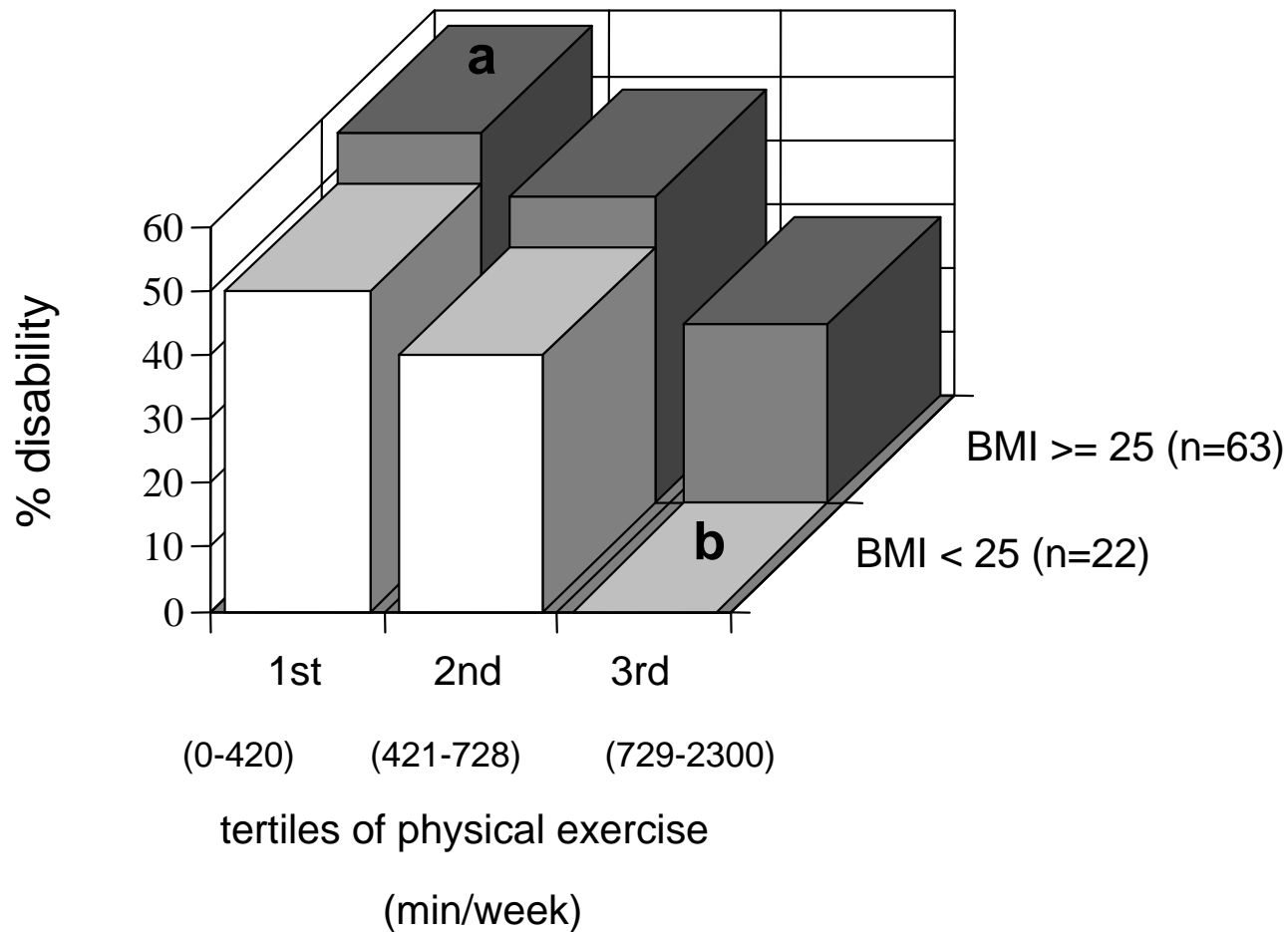


Infiltrazione adiposa
del muscolo

Anthropometric assessment of 10-y changes in body composition in the elderly (n= 53men, 78women, f-up 9.4 yrs)

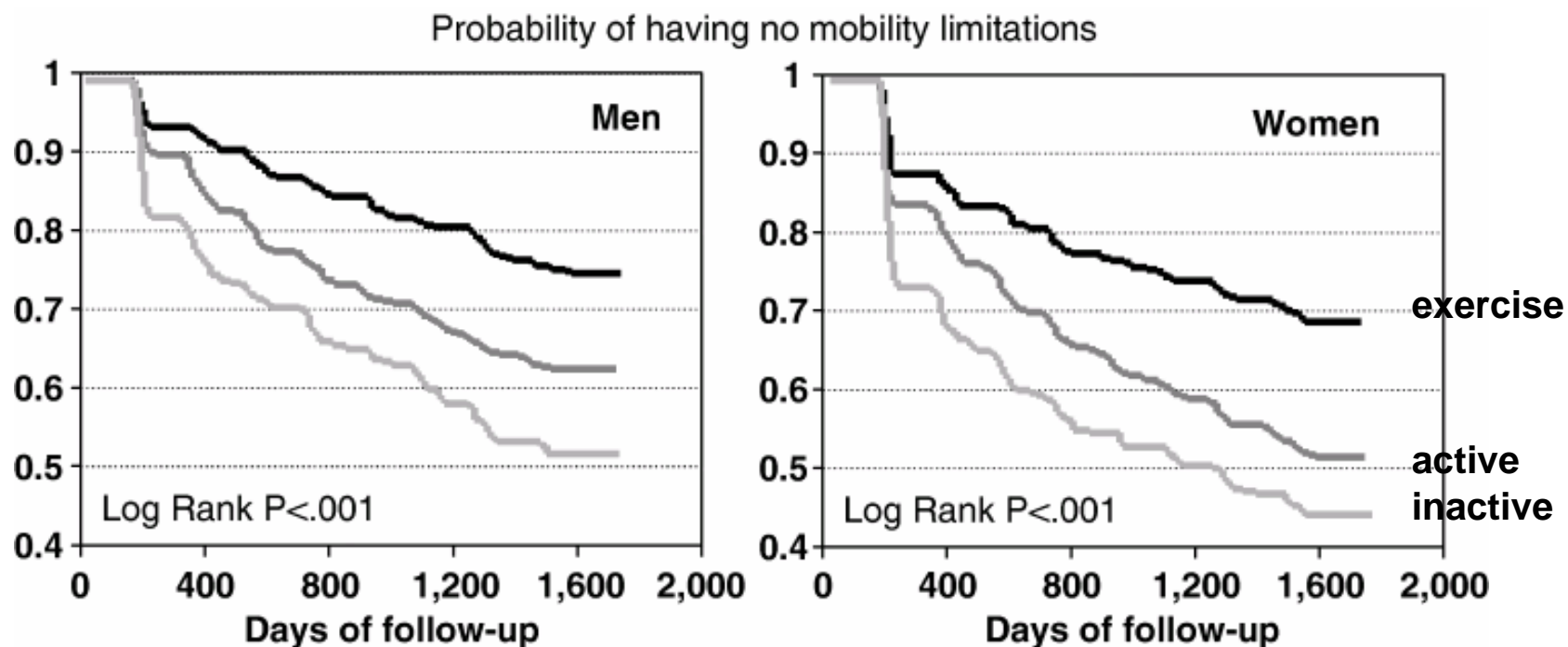


Relationships between leisure-time physical activity, obesity and disability in elderly men



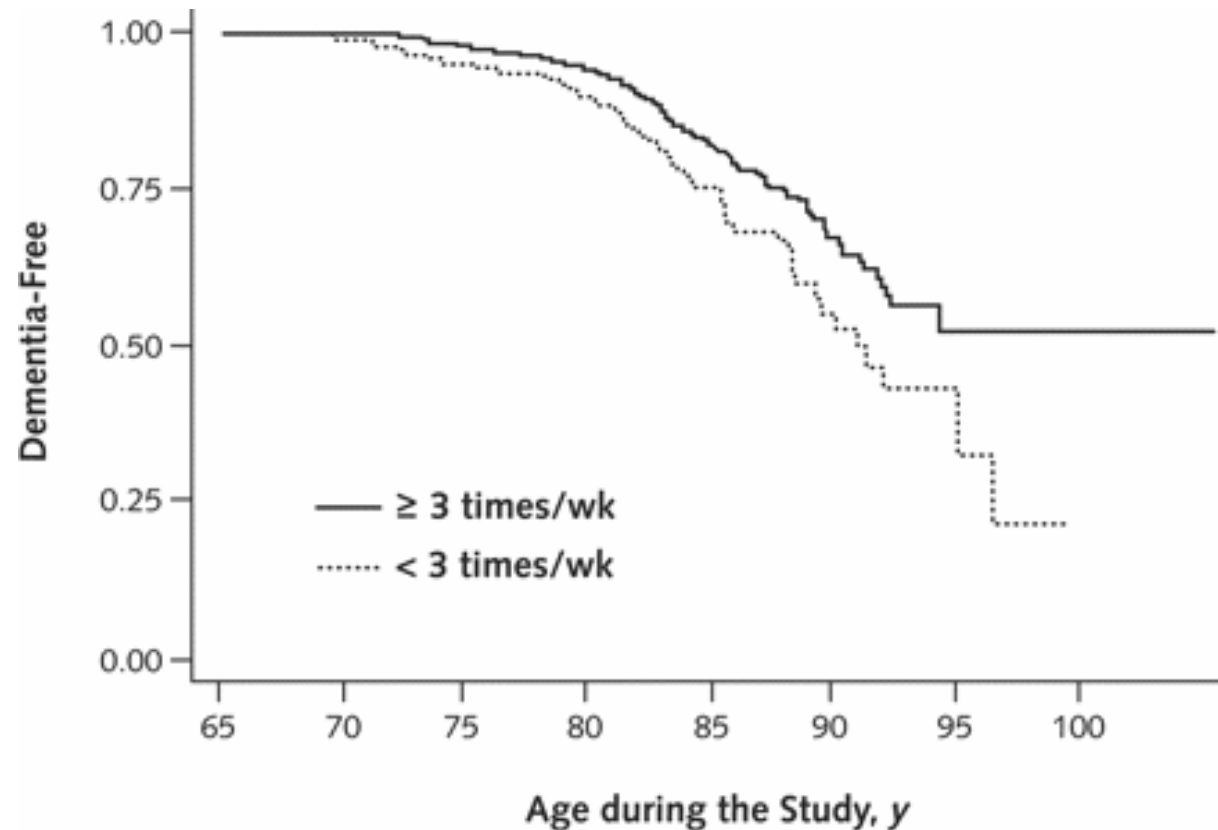


Type and Intensity of Activity and Risk of Mobility Limitation: The Mediating Role of Muscle Parameters

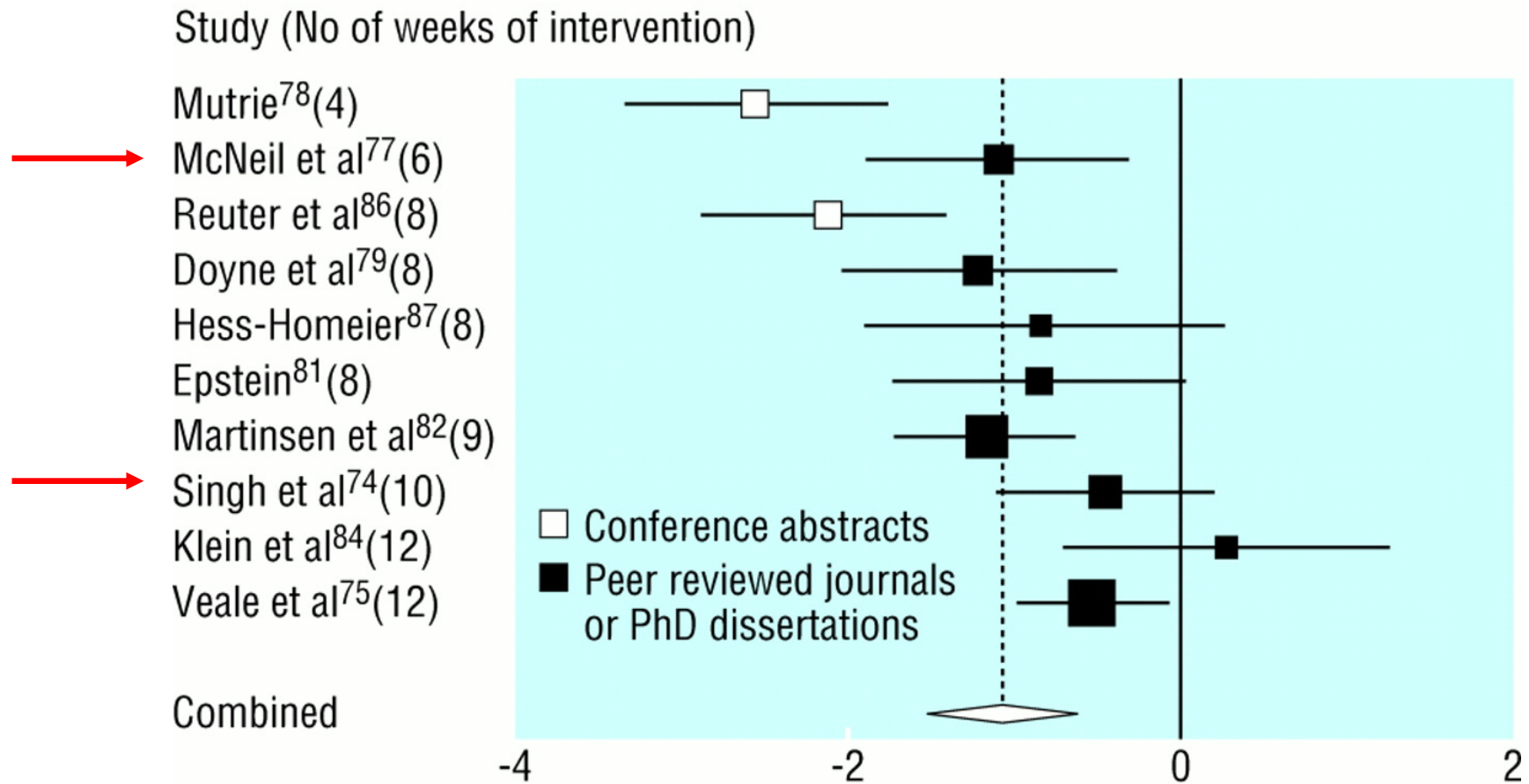


Association was still significant after adjustment for muscle parameters

Exercise Is Associated with Reduced Risk for Incident Dementia among Persons 65 Years of Age and Older



Depression and exercise



Effects of 10 Days of Bed Rest in Older Adults

Table. Effects of 10 Days of Bed Rest in Older Adults

	No. of Participants (N = 12)*	Mean (95% Confidence Interval)			P Value
		Bed Rest		Change	
		Before	After		
Muscle fractional synthetic rate, % per h†	10	0.077 (0.059 to 0.095)	0.051 (0.035 to 0.067)	-0.027 (-0.007 to -0.047)	.02
% Change				-30.0 (-7.0 to -54.0)	
DEXA lean mass, kg‡	10				
Whole body		48.05 (40.61 to 55.49)	46.51 (39.57 to 53.45)	-1.50 (-0.62 to -2.48)	.004
% Change				-3.2 (-1.4 to -5.0)	
Lower Extremity		15.01 (12.41 to 17.61)	14.06 (11.85 to 16.27)	-0.95 (-0.42 to -1.48)	.003
% Change				-6.3 (-3.1 to -9.5)	
Isokinetic muscle strength, Nm per s§	11	120 (96 to 145)	101 (81 to 121)	-19 (-11 to -30)	.001
% Change				-15.6 (-8.0 to -23.1)	

Abbreviation: DEXA, dual-energy x-ray absorptiometry; Nm, Newton meter.

*One participant was excluded from all analyses because of insufficient protein intake.

†Because of a technical error, the muscle fractional synthesis rate measurement was excluded for 1 participant.

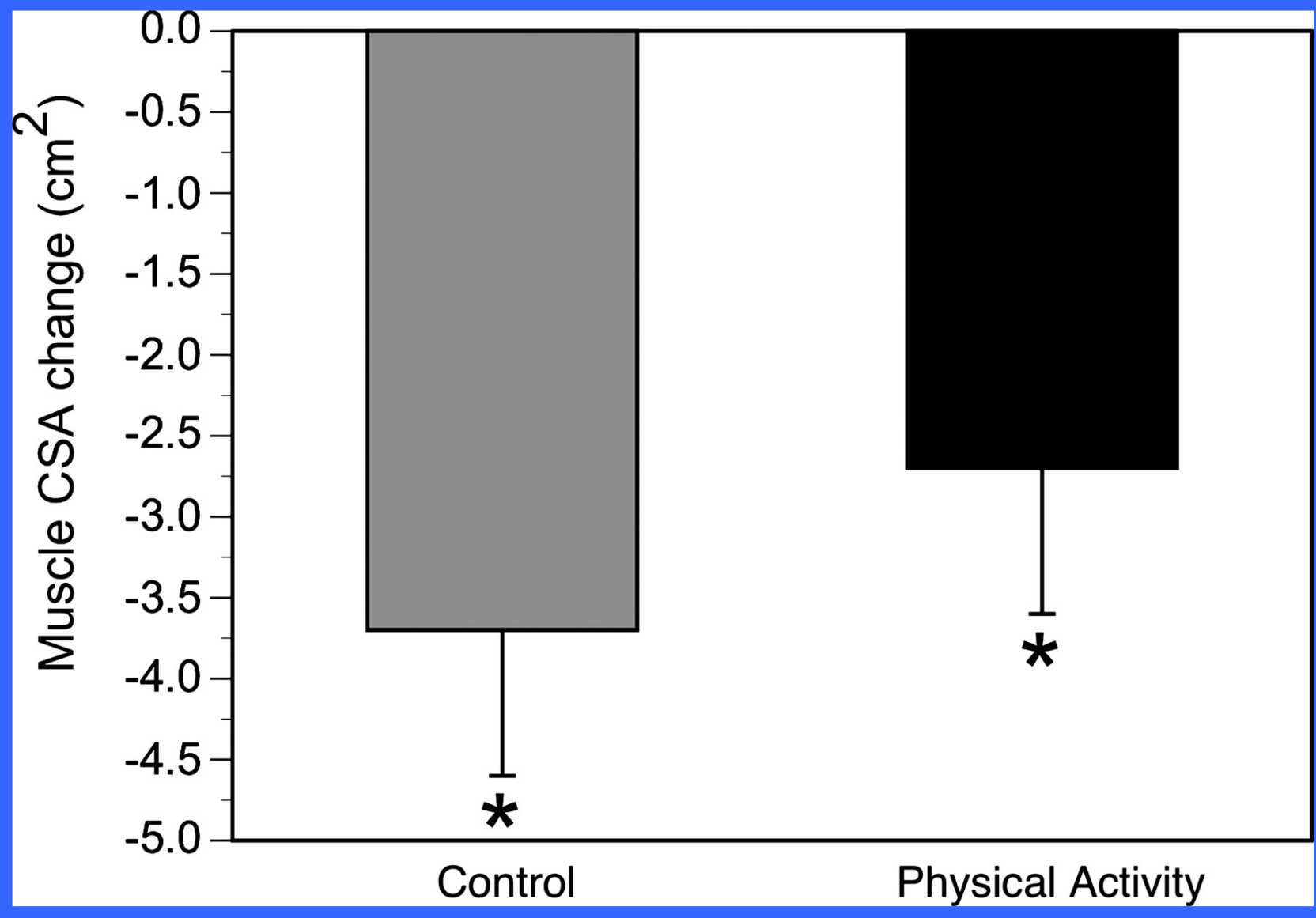
‡One participant was excluded from the DEXA analysis because the scan before bed rest was not administered.

§Isokinetic knee extension at 60° per second.

Kortebein, P. et al. JAMA 2007;297:1772-a-1774-a.



12-months aerobic, strength, flexibility, and balance training.
Three times 40- to 60-min supervised center-based
physical activity sessions per week

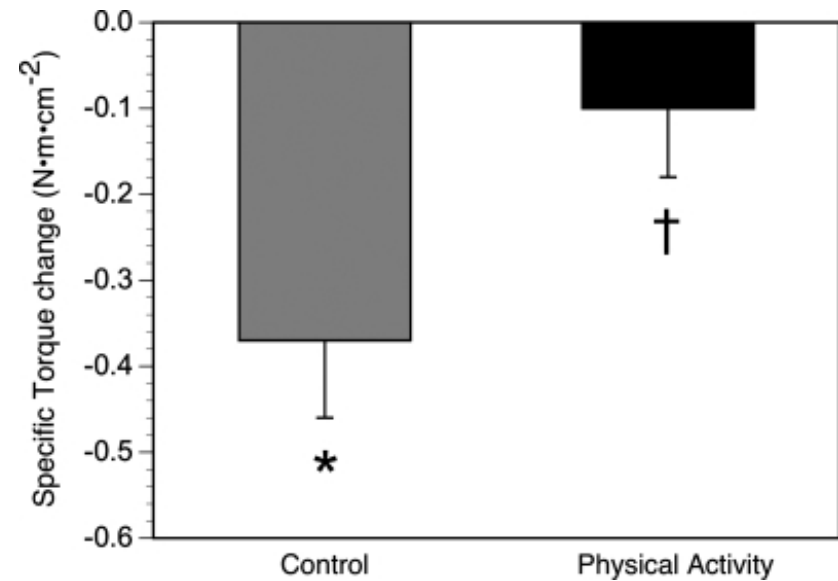
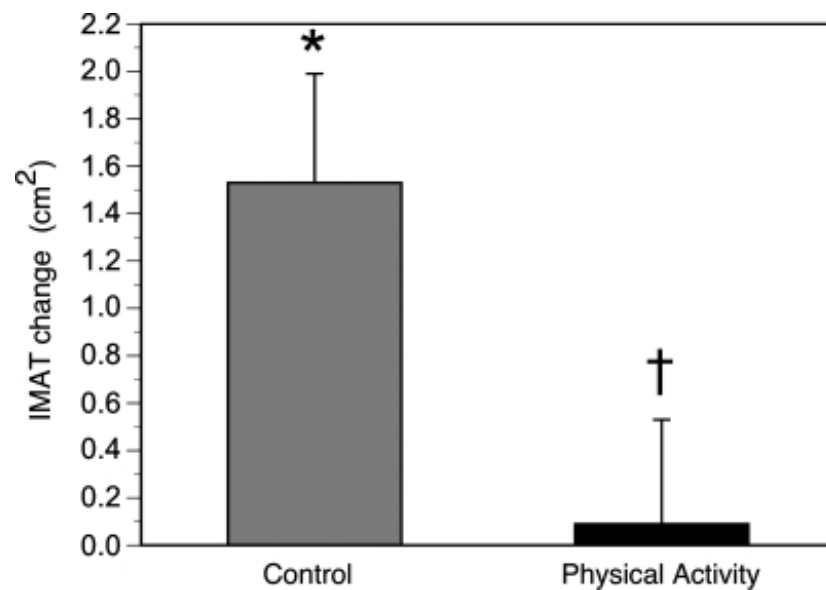


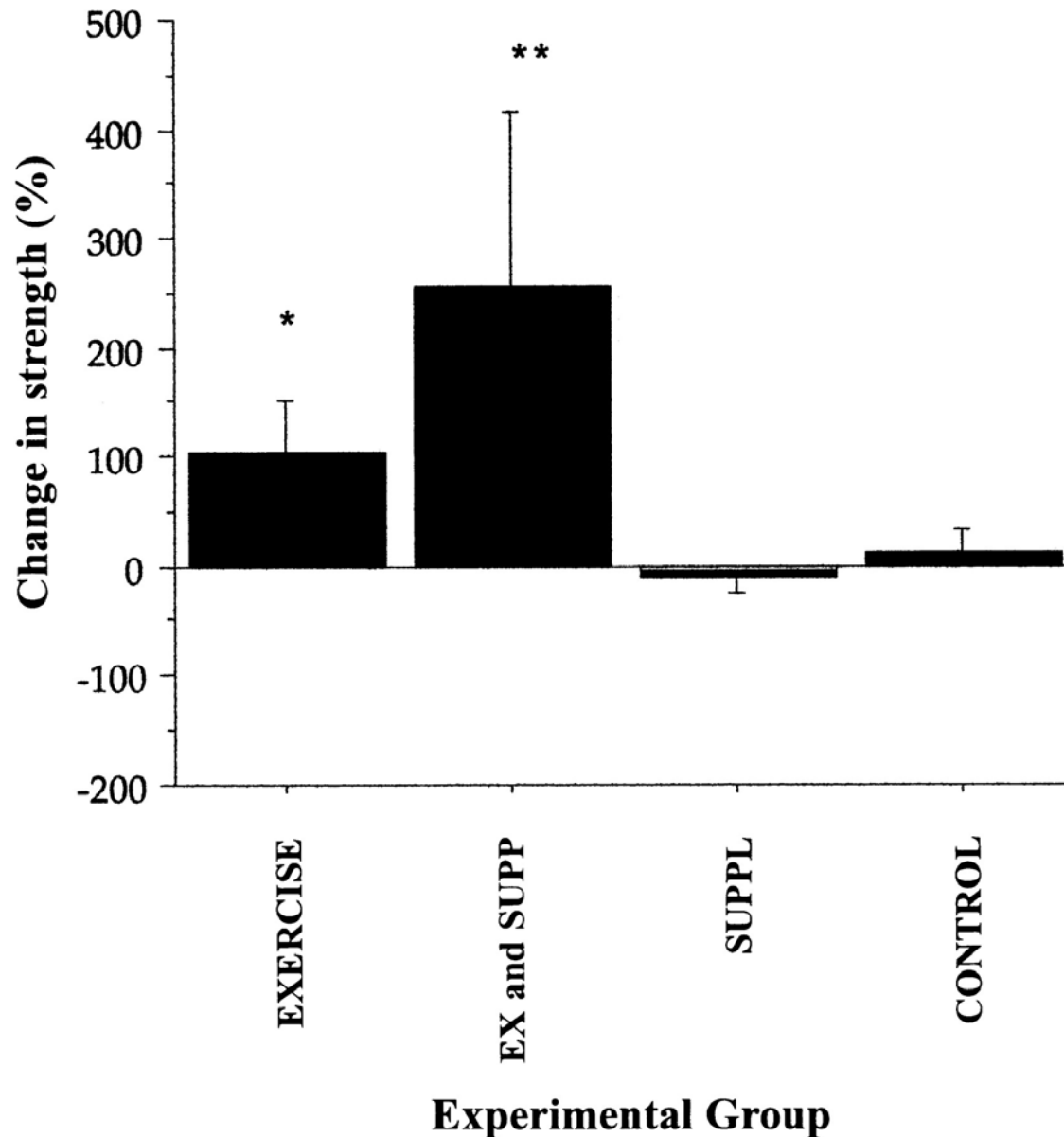
Goodpaster BH et al. J Appl Physiol 2008;105:1498-1503





Effects of physical activity on strength and skeletal muscle fat infiltration in older adults: a randomized controlled trial.





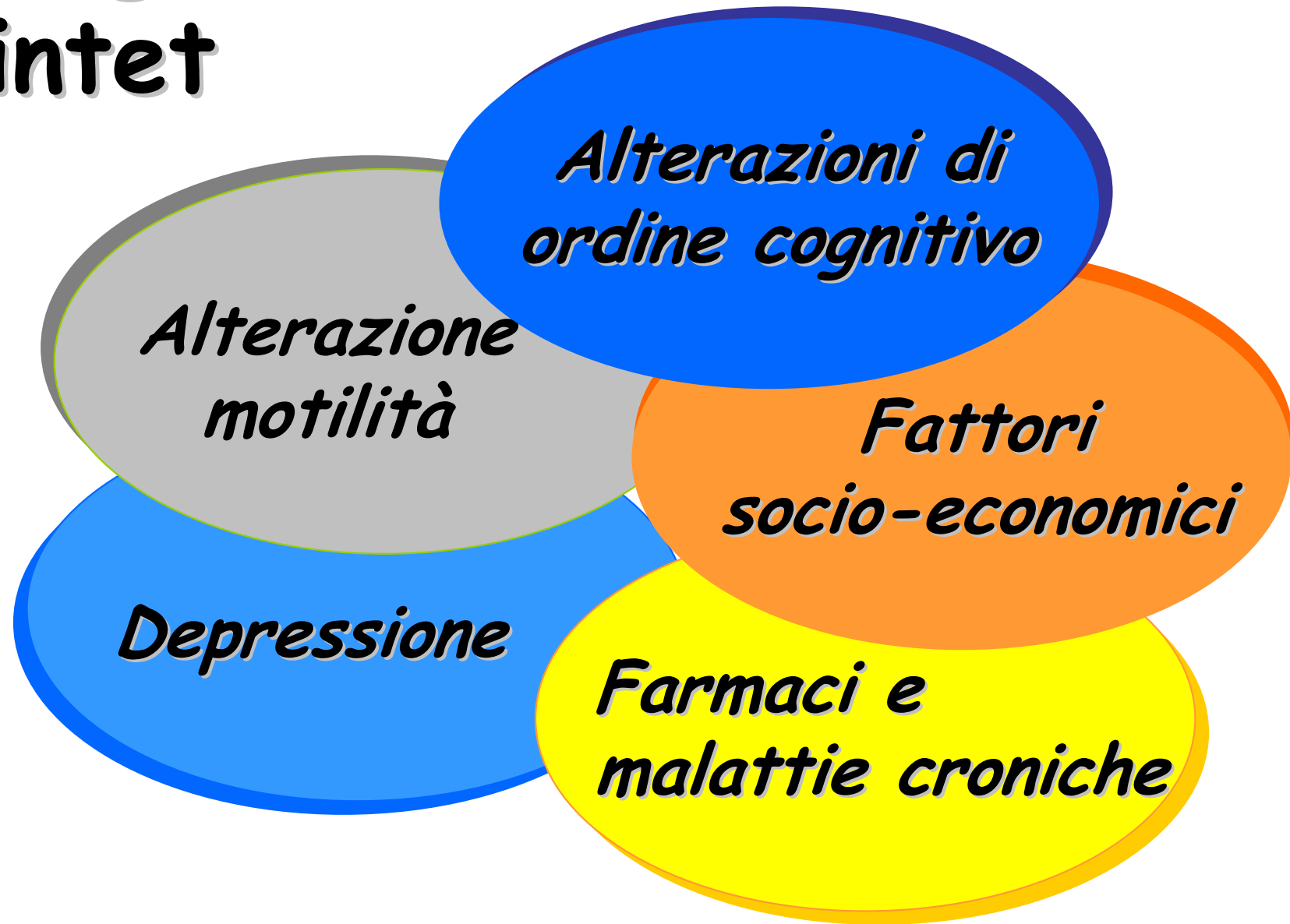
Aumento della forza dopo sollevamento pesi in anziani fragili

Strength measured as the combined 1-repetition maximum of bilateral hip and knee extensor muscle groups after 10 wk of intervention

Raccomandazioni generali per l'esercizio fisico nella popolazione anziana

		Esercizio di potenza	Esercizio aerobico	Esercizio di stretching	Esercizio di equilibrio
Dose	frequenza	2-3g/sett	3-7g/sett	2-7g/sett	1-7g/sett
	volume	1-3 set di 8-12 ripetizioni, 8-10 gruppi muscolari maggiori	20-60 min	4 ripetizioni, 30 sec/stretch, 6-10 gruppi muscolari maggiori	1-2 set di 4-10 esercizi di postura statica e dinamica,
Intensità		15-17 scala di Borg, 10 sec a ripetizione	11-14 scala di Borg, 45-80% Fc massima	stretch fino alla max distanza senza dolore	difficoltà crescente
Caratteristiche per la sicurezza e efficacia		Velocità lenta, Buona esecuzione Non trattenere il Respiro Aumento progressivo pesi	Attività a basso impatto Se possibile Indossando pesi	-	Monitoraggio Ambiente Protetto Graduale Aumento della difficoltà

The geriatric quintet

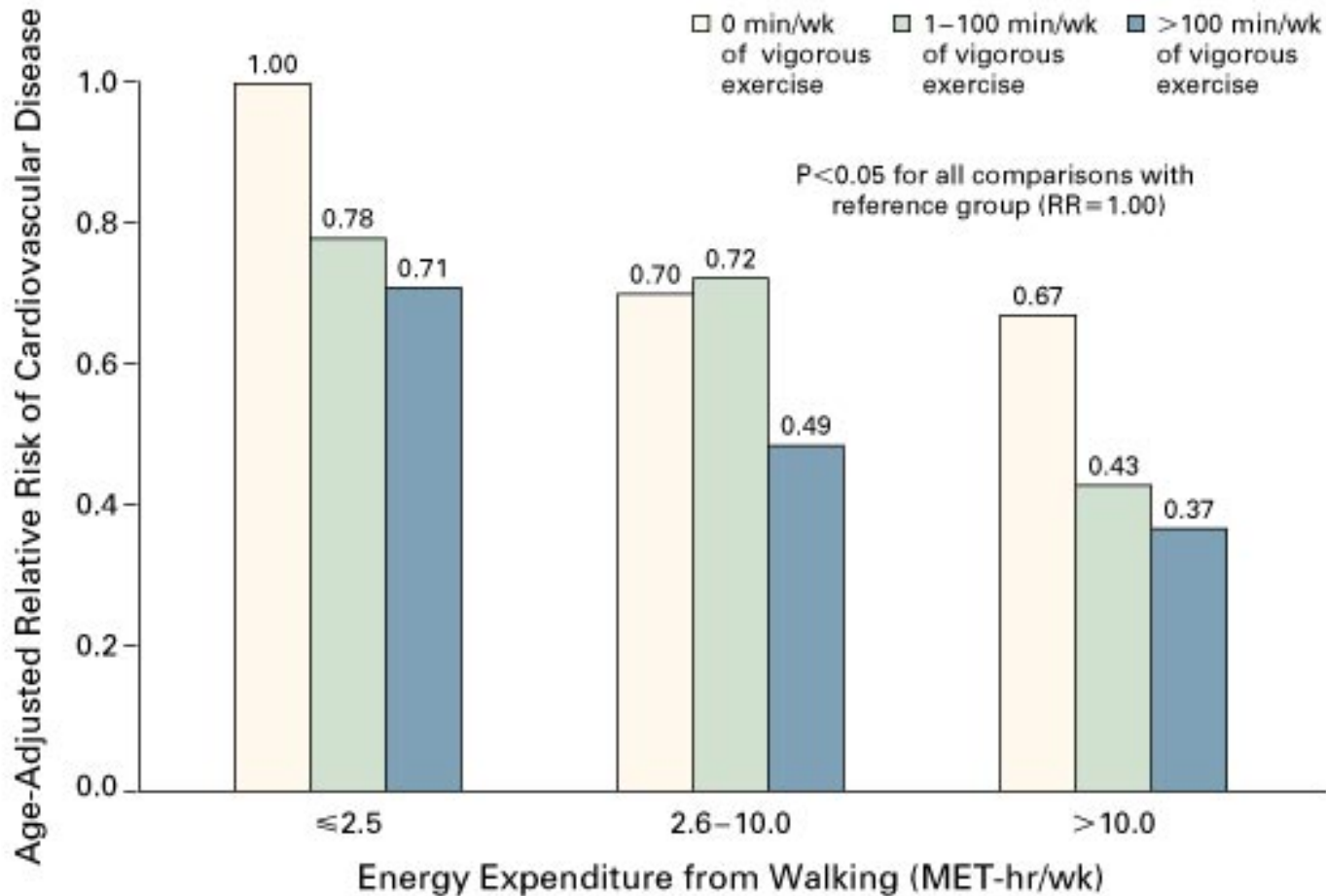


Harper et al, 1978



Walking Compared with Vigorous Exercise for the Prevention of Cardiovascular Events in Women

JoAnn E. Manson *N Engl J Med* 2002



(Walking and Aging Verona) WAVE Study

Centro Auser di
Quinzano, Verona

21 women

Baseline evaluation

3 months evaluation

6 months evaluation

Personal interview
Clinical evaluation
Anthropometric measures
Isometric Dinamometer
for knee extension
400-meters walk test
Short Physical
Performance Battery
PASE, DXA
Fasting lipoprotein lipid
and HbA1C
Blood pressure
Arterial stiffness

The adherence at the brisk walking sessions was 90% and 65% respectively at 3 and 6 months follow-up.

(Walking and Aging Verona) WAVE Study

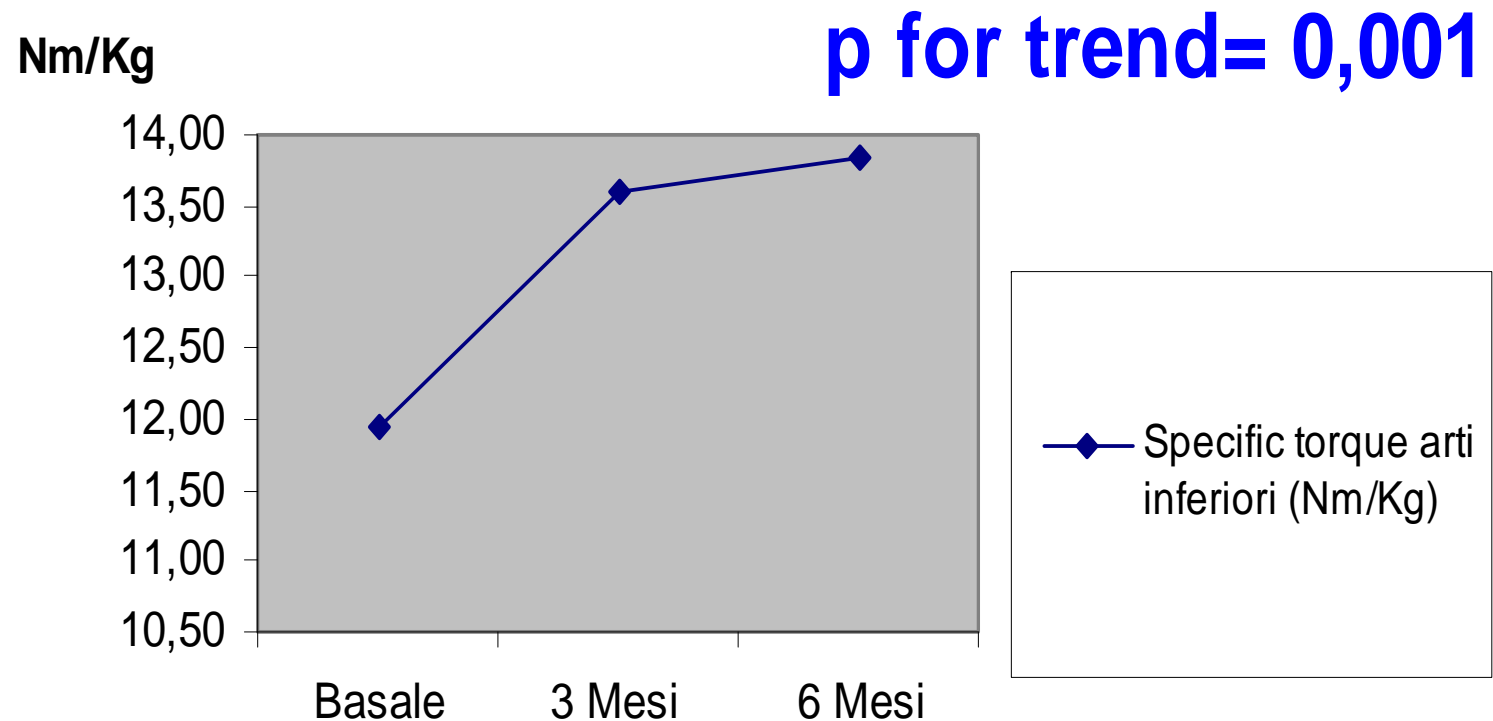
Intervention

All the subjects were involved in brisk walking sessions 1 h per day on 2 days each week under the supervision of a qualified physical education instructor for 24 weeks.

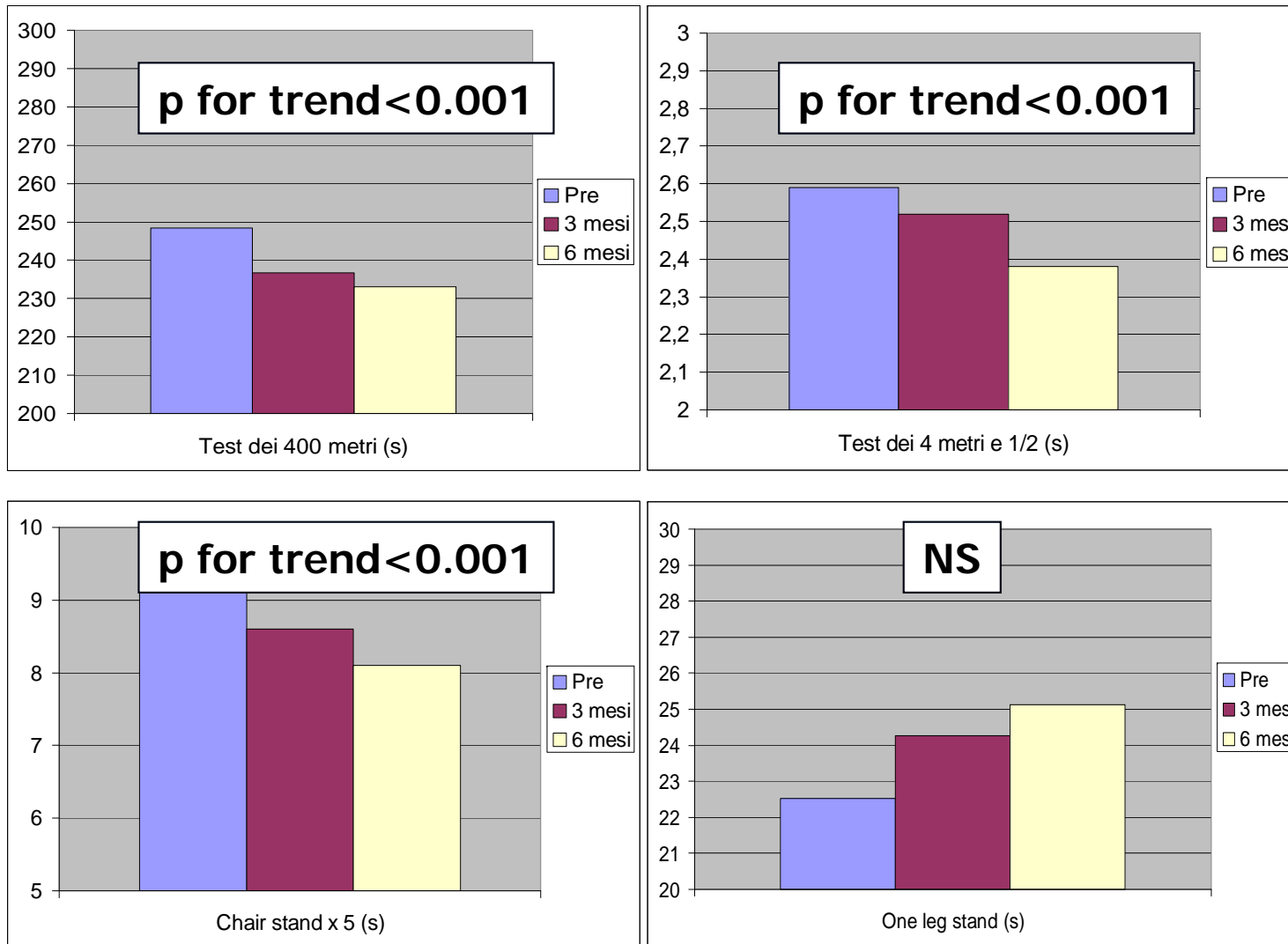
The physical activity intensity has been calculated on the basis of the Borg Scale (RPE scale = 13 "somewhat hard").

(Walking and Aging Verona) WAVE Study Strenght

Legs Specific Peak Torque



(Walking and Aging Verona) WAVE Study Performance





Nathan Walsh, Verona 2012

