HOSPITAL ITALIANO de Buenos Aires

Programa Medicina Geriátrica

ACADEMIA LATINOAMERICANA DE MEDICINA DEL ADULTO MAYOR

ALMA

Sarcopenia:

Termino Cuantitativo

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Objetivos

- **Reconocer la implicancia de la disfunción de las *unidades motoras* en el desarrollo de la sarcopenia.**

- **Establecer su vinculación con los trastornos funcionales.**

Definición de Sarcopenia

Síndrome caracterizado por progresiva y generalizada perdida de la fuerza y masa muscular con mayor riesgo de discapacidad física, pobre calidad de vida y muerte

Age and Ageing 2010; 39: 412–423

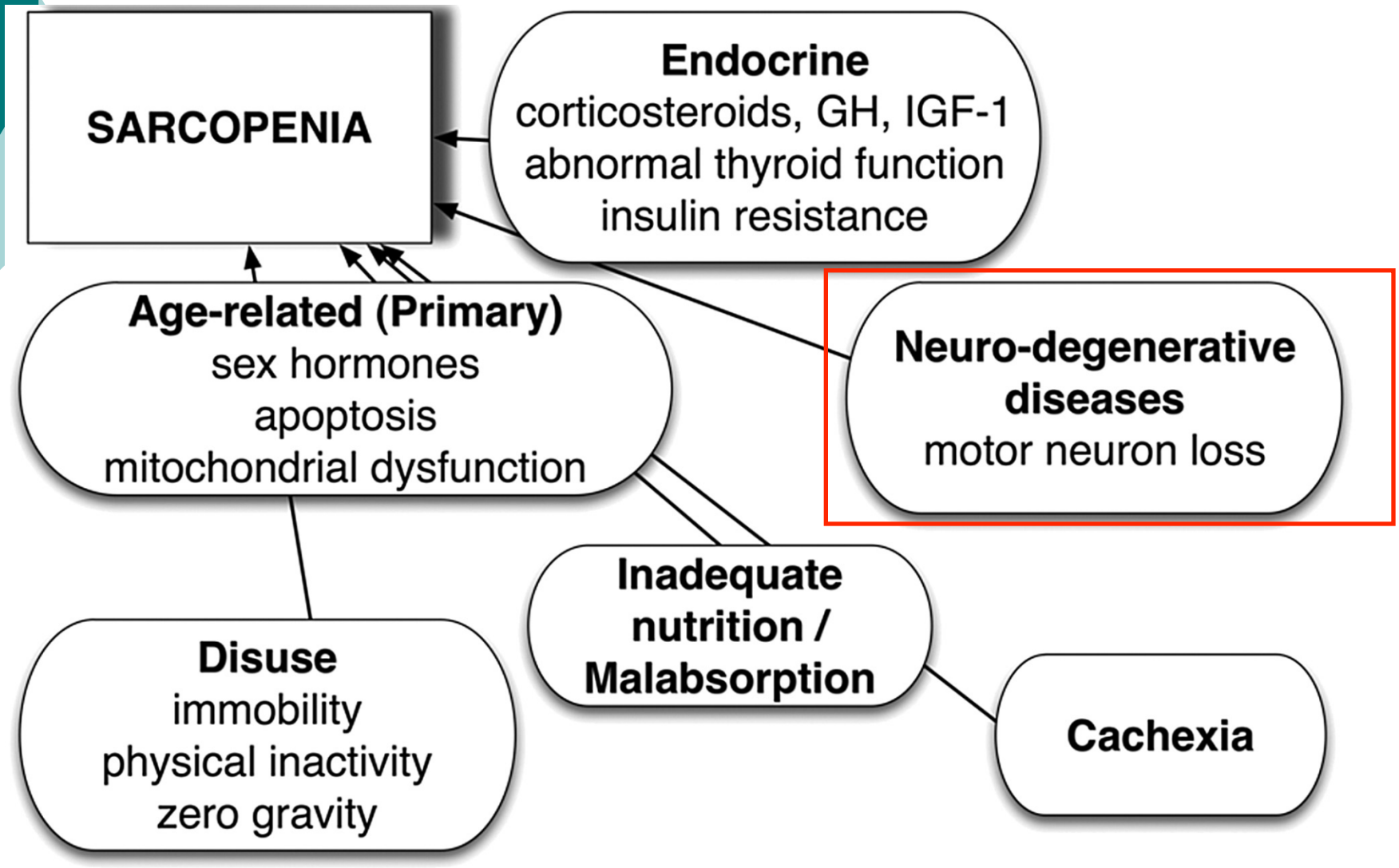
Criterios para el diagnostico de sarcopenia:

Diagnóstico basado en la documentación del criterio 1 plus criterio 2 o 3

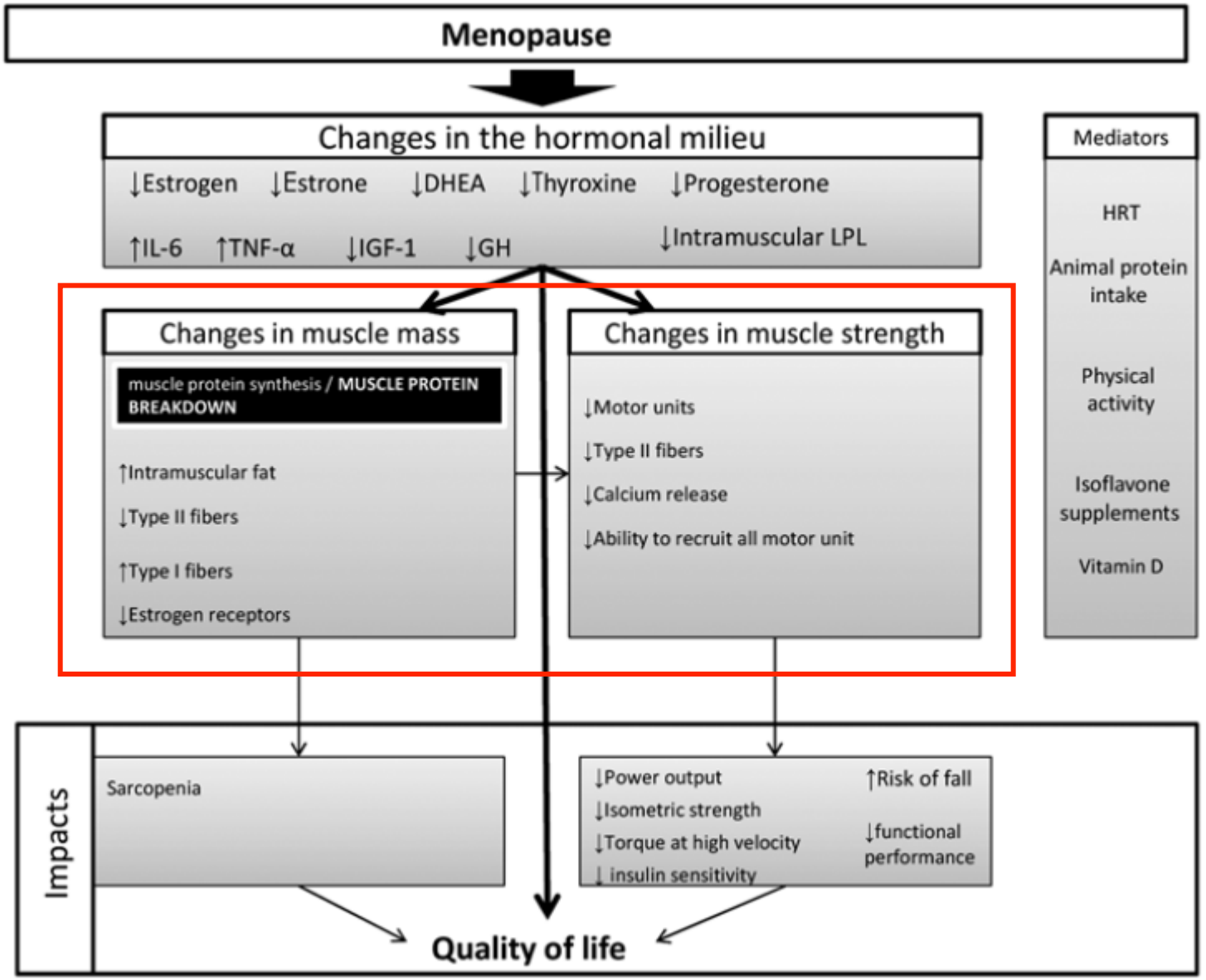
1. **Descendida masa muscular**
2. **Descendida fuerza muscular**
3. **Baja performance física**

Age and Ageing 2010; 39: 412–423

Mecanismos de la Sarcopenia



Changes in muscle mass and strength after menopause



J Musculoskelet Neuronal Interact 2009; 9(4):186-197

Sarcopenia: etiology, clinical consequences, intervention, and assessment

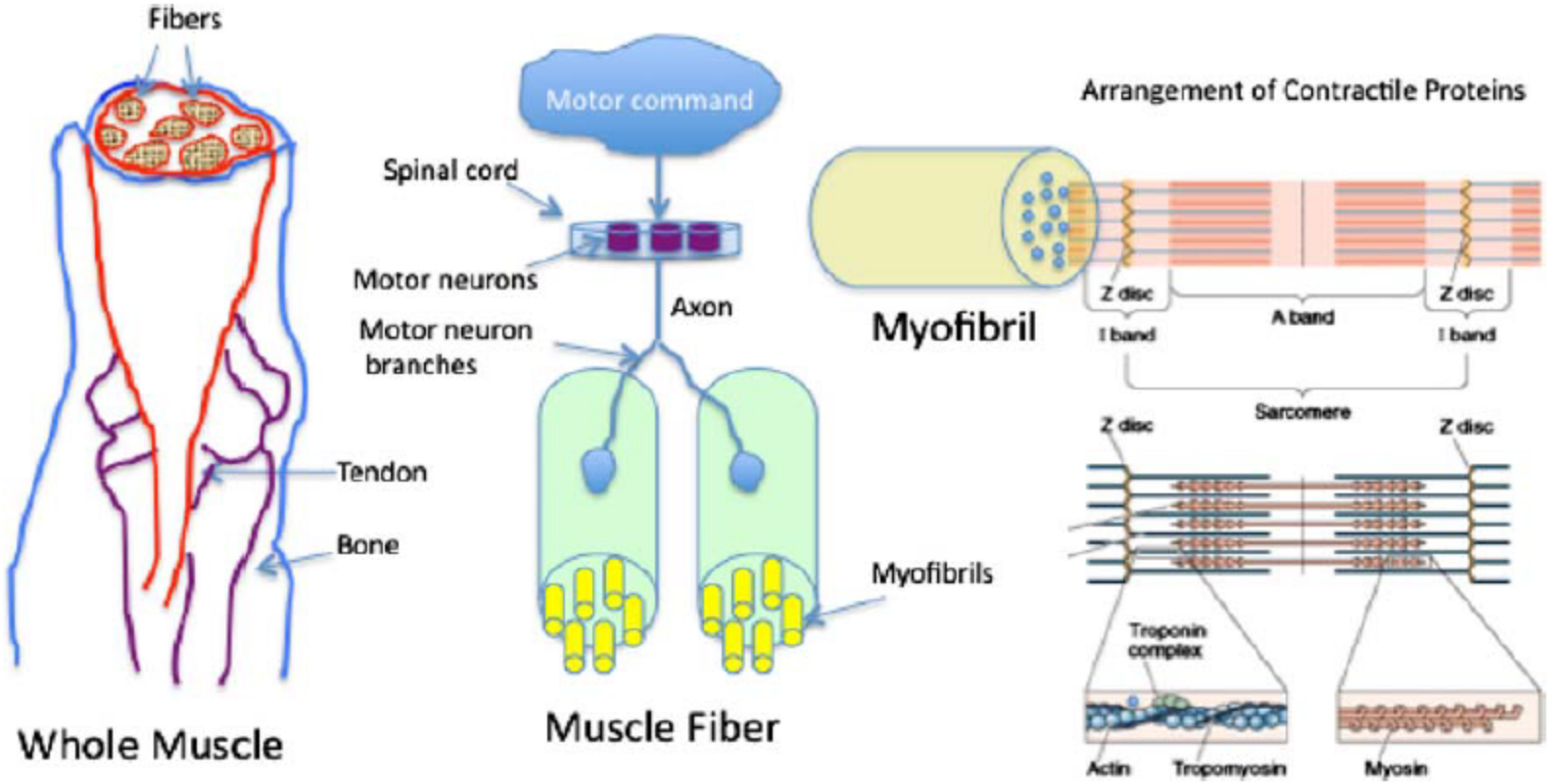
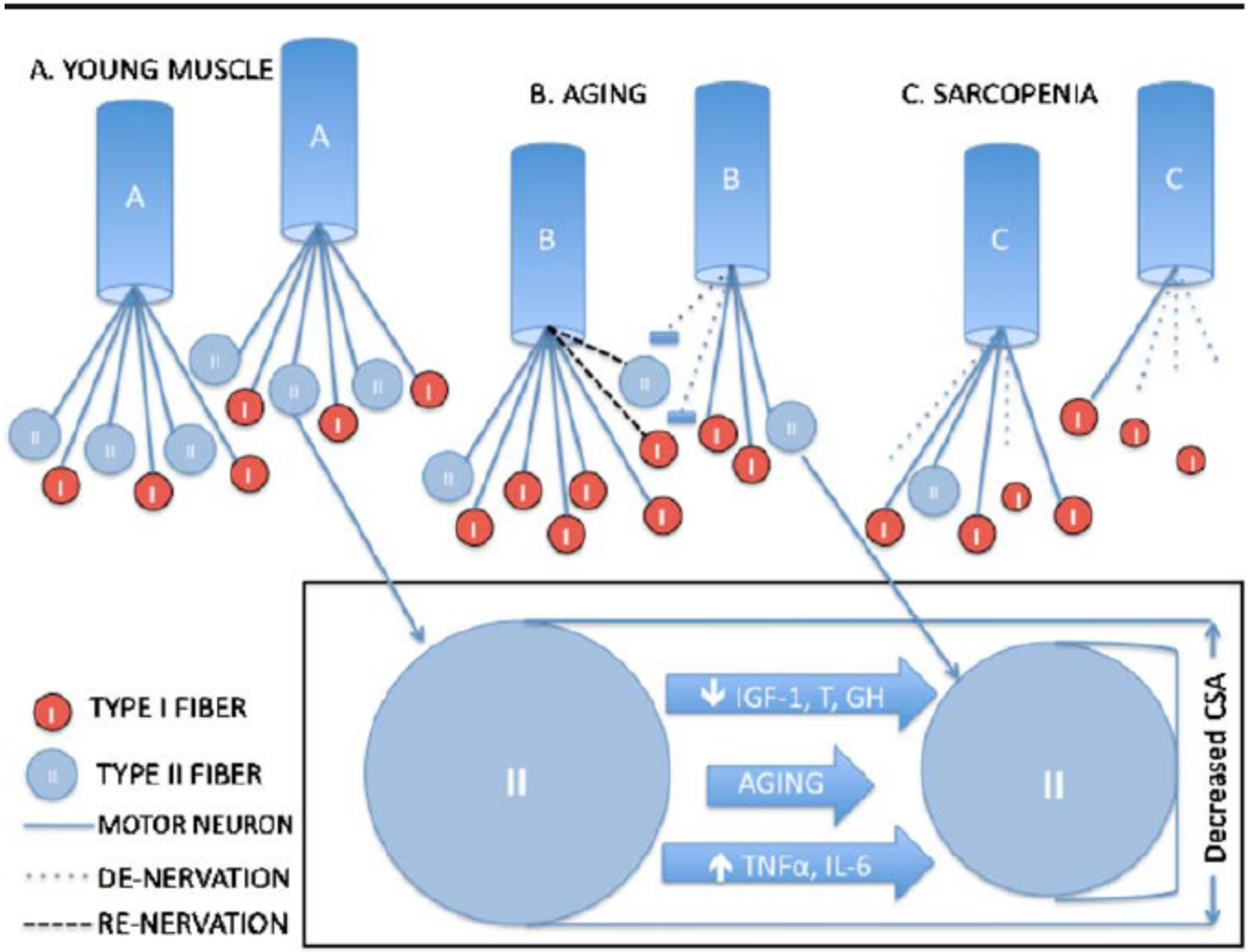
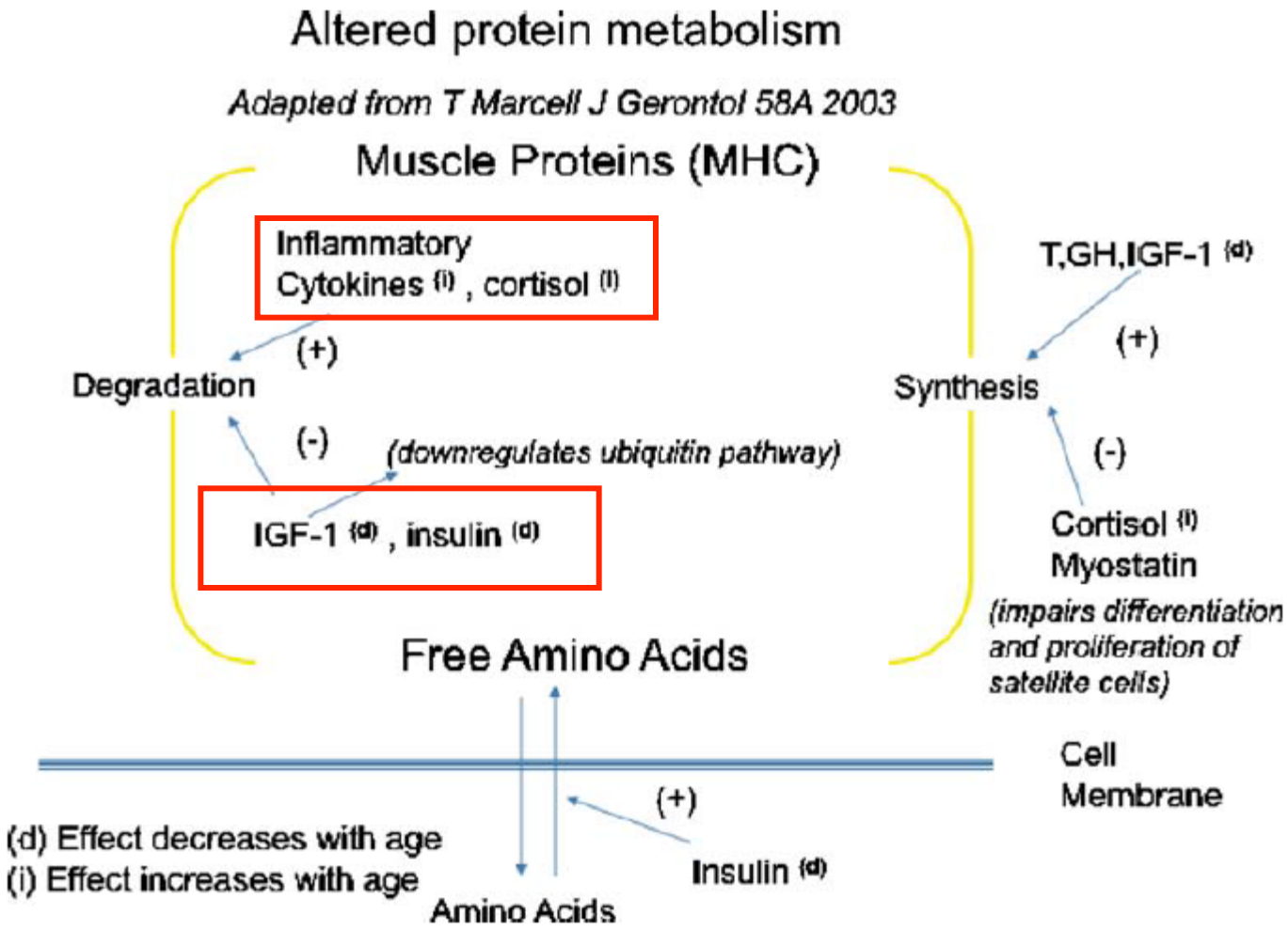


Fig. 1 Hierarchical depiction of skeletal muscle structure, depicting the skeletal muscle fibers within the muscle bundle, a motor unit branching out to two muscle fibers and the detailed structure of myofibrils

Osteoporos Int (2010) 21:543–559



Osteoporos Int (2010) 21:543–559



Osteoporos Int (2010) 21:543–559

Original article

Type IIB human skeletal muscle fibers positively correlate with bone mineral density irrespective to age

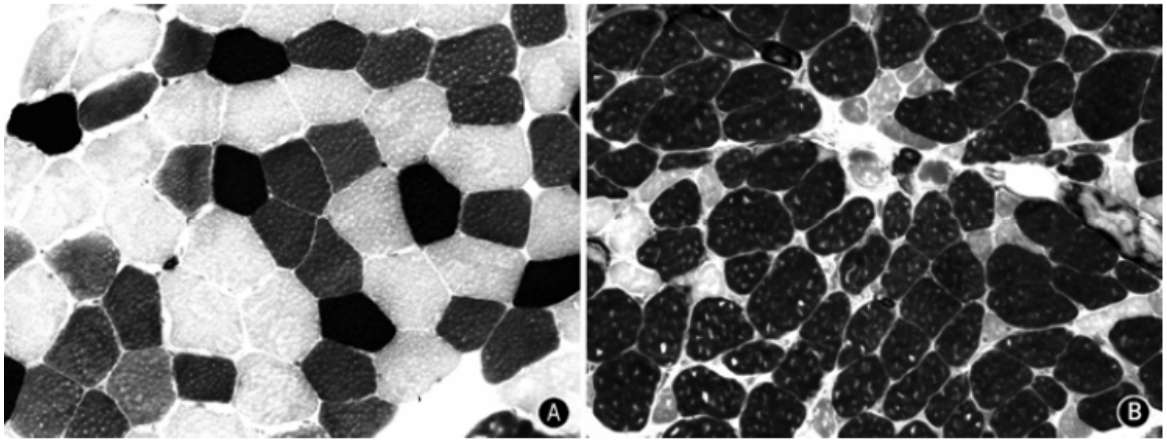


Figure. ATPase staining of human skeletal muscle biopsies. **A:** A representative muscle specimen from a 23-year-old patient shows polygonal and evenly distributed muscle fibers, where lightest, intermediate, and darkest signals represent type IIA, IIB, and I muscle fibers, respectively (ATPase staining, original magnification ×20). **B:** A representative muscle specimen from a 83-year-old patient shows flattened muscle fibers dominated by type I. The proportion of type IIA and IIB muscle fibers decreases

Chin Med J 2010;123(21):3009-3014

Table 2. Histomorphometric analysis of human muscle fibers and their partial correlation with BMD after adjusting age

Indices	Muscle fiber types	Hip BMD		Spine BMD	
		Correlation coefficient (*r*)	*P* values	Correlation coefficient (*r*)	*P* values
Muscle average area (%)	I	–0.367	0.036*	–0.019	0.918
	IIA	0.046	0.800	–0.228	0.218
	IIB	0.380	0.029*	0.201	0.278
	Connective Tissue	–0.187	0.305	0.200	0.289
Muscle number (%)	I	–0.114	0.528	0.217	0.241
	IIA	0.080	0.657	0.268	0.144
	IIB	0.251	0.159	0.139	0.457
Mean muscle fiber area (%)	I	0.148	0.411	0.309	0.090
	IIA	0.420	0.015*	0.290	0.113
	IIB	0.389	0.025*	0.344	0.058†

*: $P<0.05$; †: marginal significant

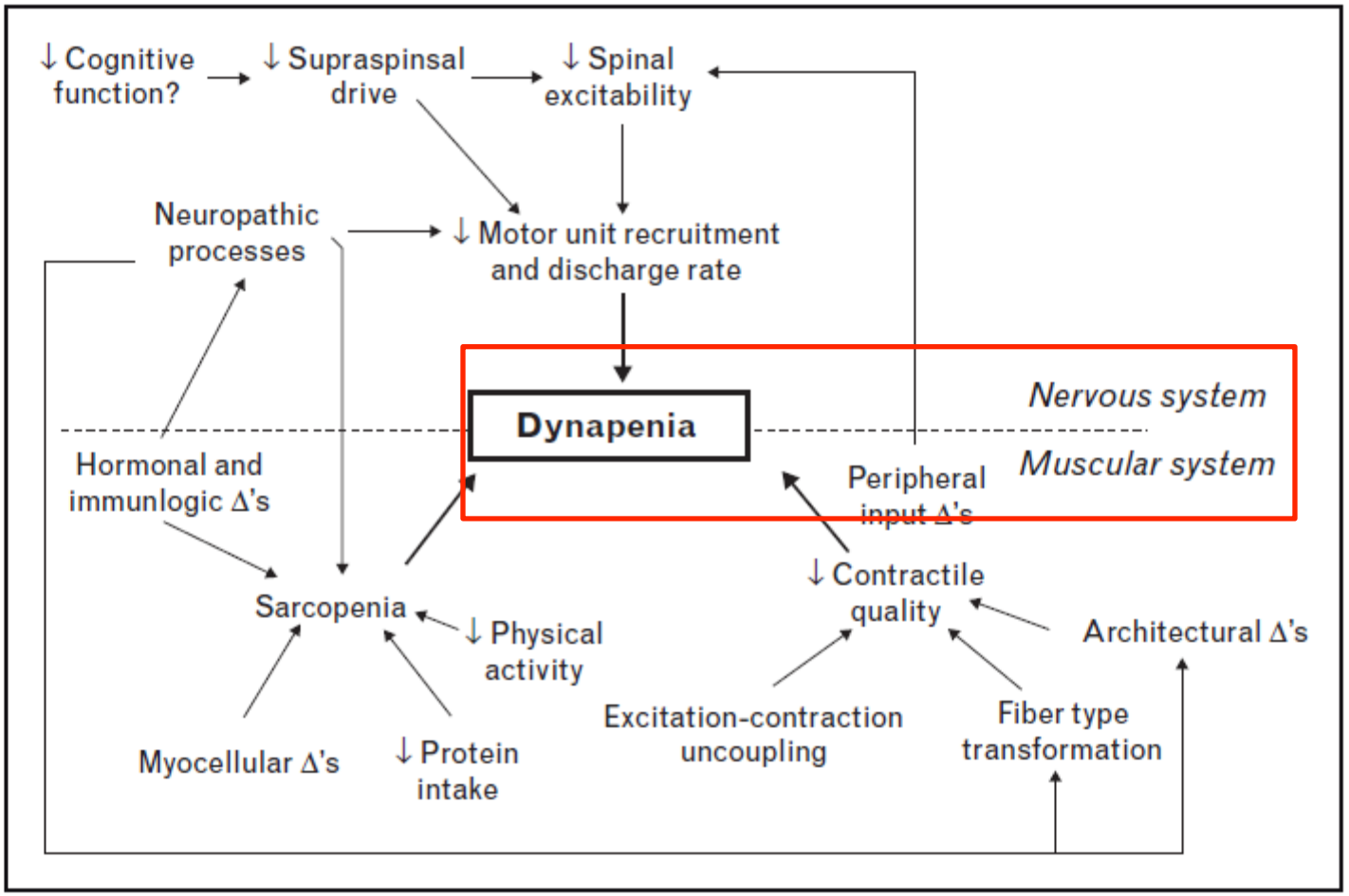
Functional consequences of sarcopenia and dynapenia in the elderly

Sarcopenia → Disminución de las fibras musculares

Dynapenia → Disminución de la fuerza muscular

Current Opinion in Clinical Nutrition and Metabolic Care 2010, 13:271–276

igure 1 Proposed biologic mechanisms contributing to dynapenia (the age-associated loss of strength)



Current Opinion in Clinical Nutrition and Metabolic Care 2010, 13:271–276

Reduced Lean Mass in Early Alzheimer Disease and Its Association With Brain Atrophy

Jeffrey M. Burns, MD, MS; David K. Johnson, PhD; Amber Watts, PhD; Russell H. Swerdlow, MD; William M. Brooks, PhD

Table 3. Standardized Coefficients (β) Predicting Lean Mass After Controlling for Age and Sex[a]

Variable	β	*P* Value
Whole-brain volume, normalized	.20	<.001
Gray matter volume, normalized	.06	.27
White matter volume, normalized	.19	<.001
Global cognitive performance	.12	.007
Mini-Mental State Examination	.11	.009
Insulin, AUC	.11	.02
Glucose, AUC	.09	.05
C-reactive protein	.003	.94
Physical activity (PASE)	.14	.001
Activities of daily living	.07	.09
Physical performance task	.07	.16
Depression	−.05	.21
Apolipoprotein E4 carrier	−.05	.24

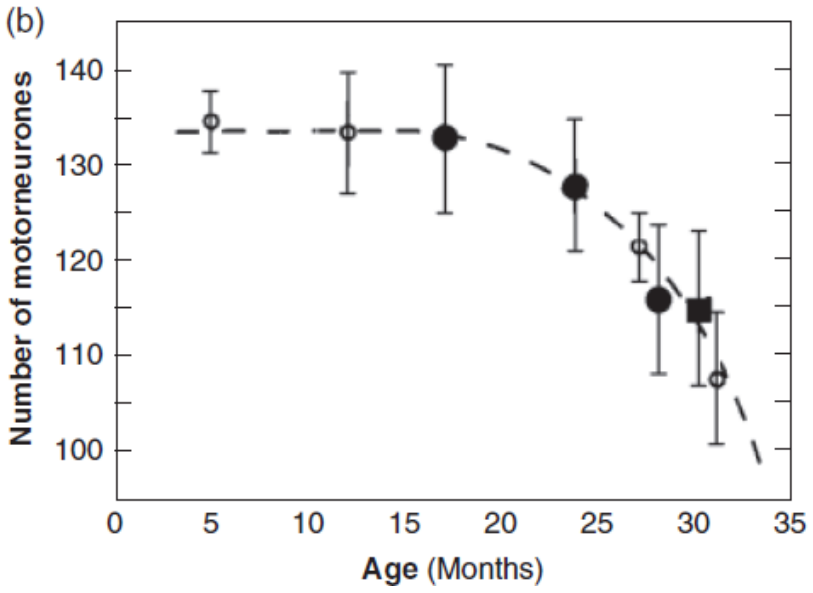
Abbreviations: AUC, area under the curve; PASE, Physical Activity Scale in the Elderly.

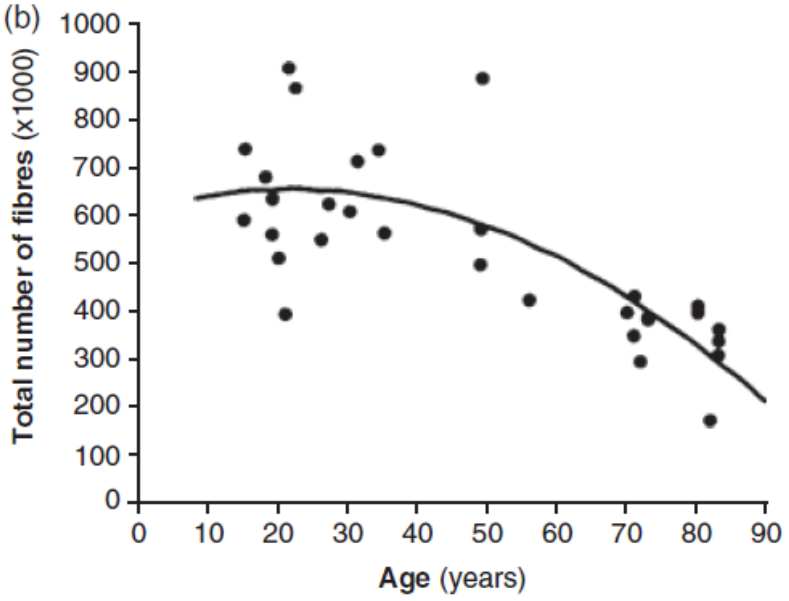
[a] Age and sex included in all analyses as covariates.

Arch Neurol. 2010;67(4):428-433

Review

Role of the nervous system in sarcopenia and muscle atrophy with aging: strength training as a countermeasure





Scand J Med Sci Sports 2010: 20: 49–64

REVIEW

Understanding frailty

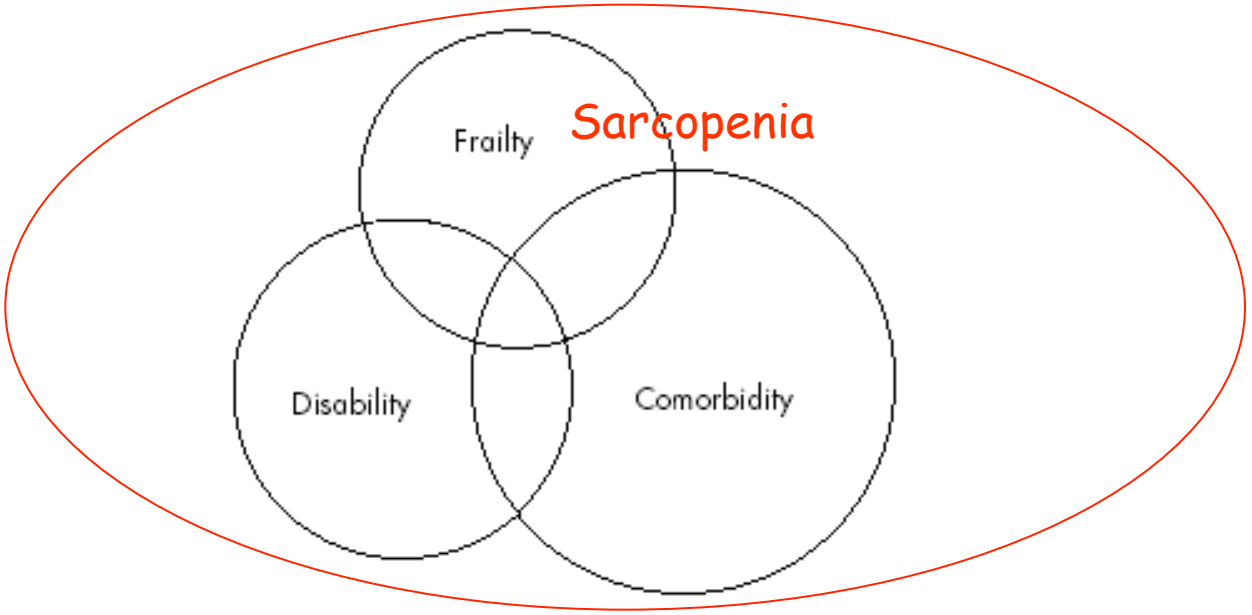


Figure 2 The association between frailty, disability and comorbidity.

Postgrad Med J 2007;**83**:16–20.

EDITORIAL

Myopenia—a new universal term for muscle wasting

Kenneth Fearon · William J. Evans · Stefan D. Anker

Perdida de masa muscular clínicamente significativa por alguna enfermedad y a cualquier edad

J Cachexia Sarcopenia Muscle (2011) 2:1–3

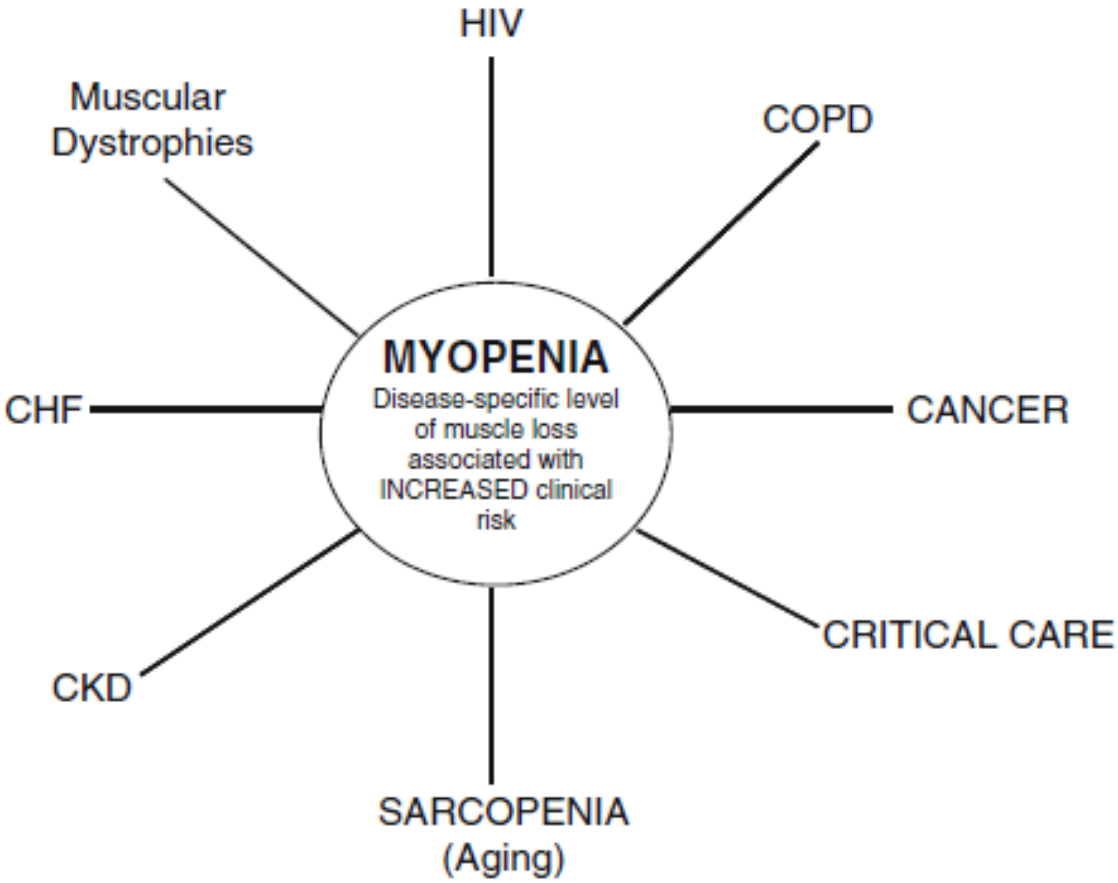


Fig. 1 Diseases that can cause clinically significant muscle wasting, i.e., myopenia

Conclusiones

- La perdida de masa muscular es un componente importante pero no el único a la hora de definir la sarcopenia.

- La alteración en la funcionalidad estaría dada no solo por la disminuida masa muscular sino también por la afectación neuromuscular y la atrofia cerebral.

- Se encuentran apareciendo nuevos conceptos, por ejemplo dynapenia y myopenia, para poder explicar mas en detalle la discapacidad devenida de la sarcopenia.


Gaturro
ESTUDIAR
ORDENAR
LIMPIAR
ARREGLAR
NO DEJES PARA HOY
LO QUE TAMPOCO
VAS A HACER MAÑANA...
Nik