



SUPPLEMENTAZIONE AMINOACIDICA SULLA PERFORMANCE FISICA DEL PAZIENTE ADULTO CON FIBROSI CISTICA

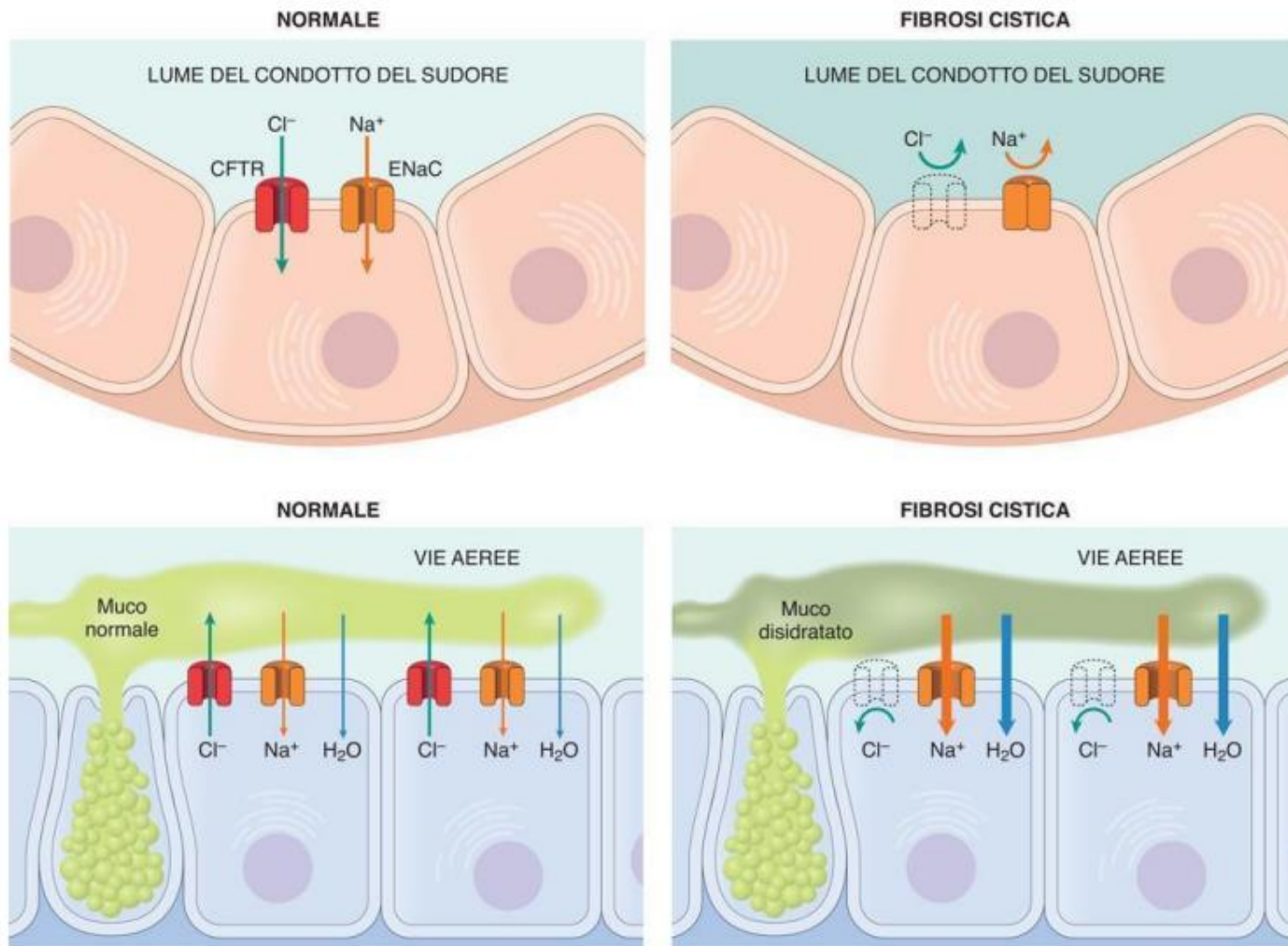
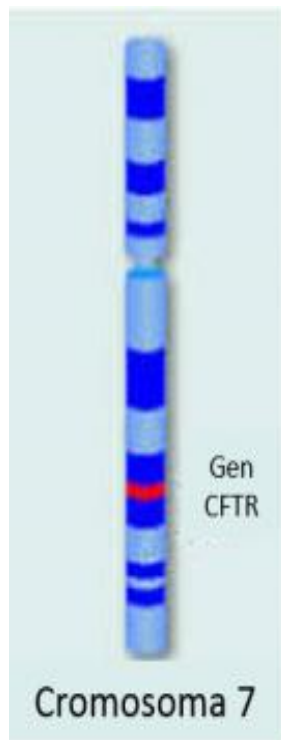


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Dipartimento di Scienze Mediche Traslazionali
Università degli Studi di Napoli «Federico II»



Cos'è la Fibrosi Cistica?

CFTR



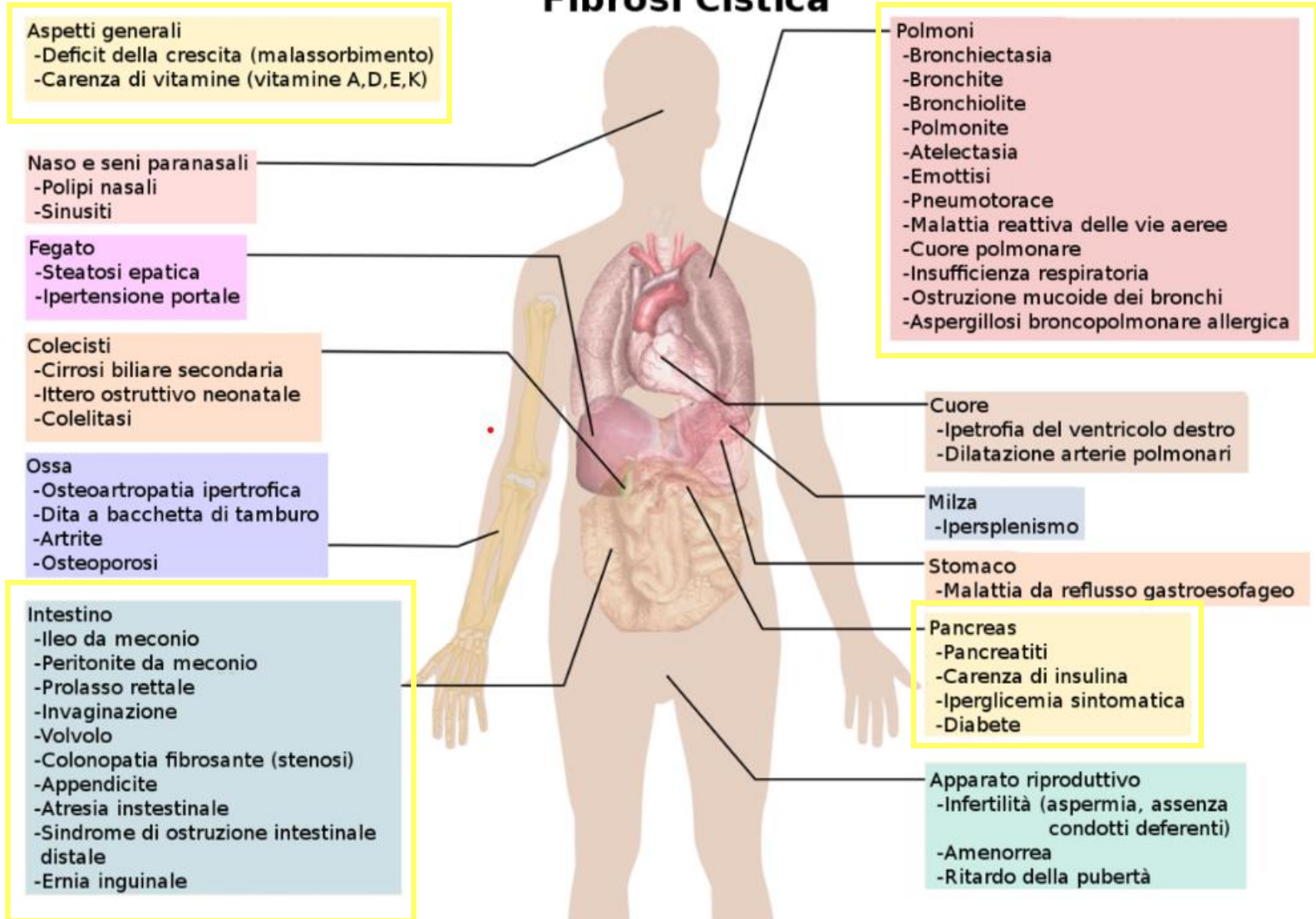
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Patologia multisistemica

Fibrosi Cistica

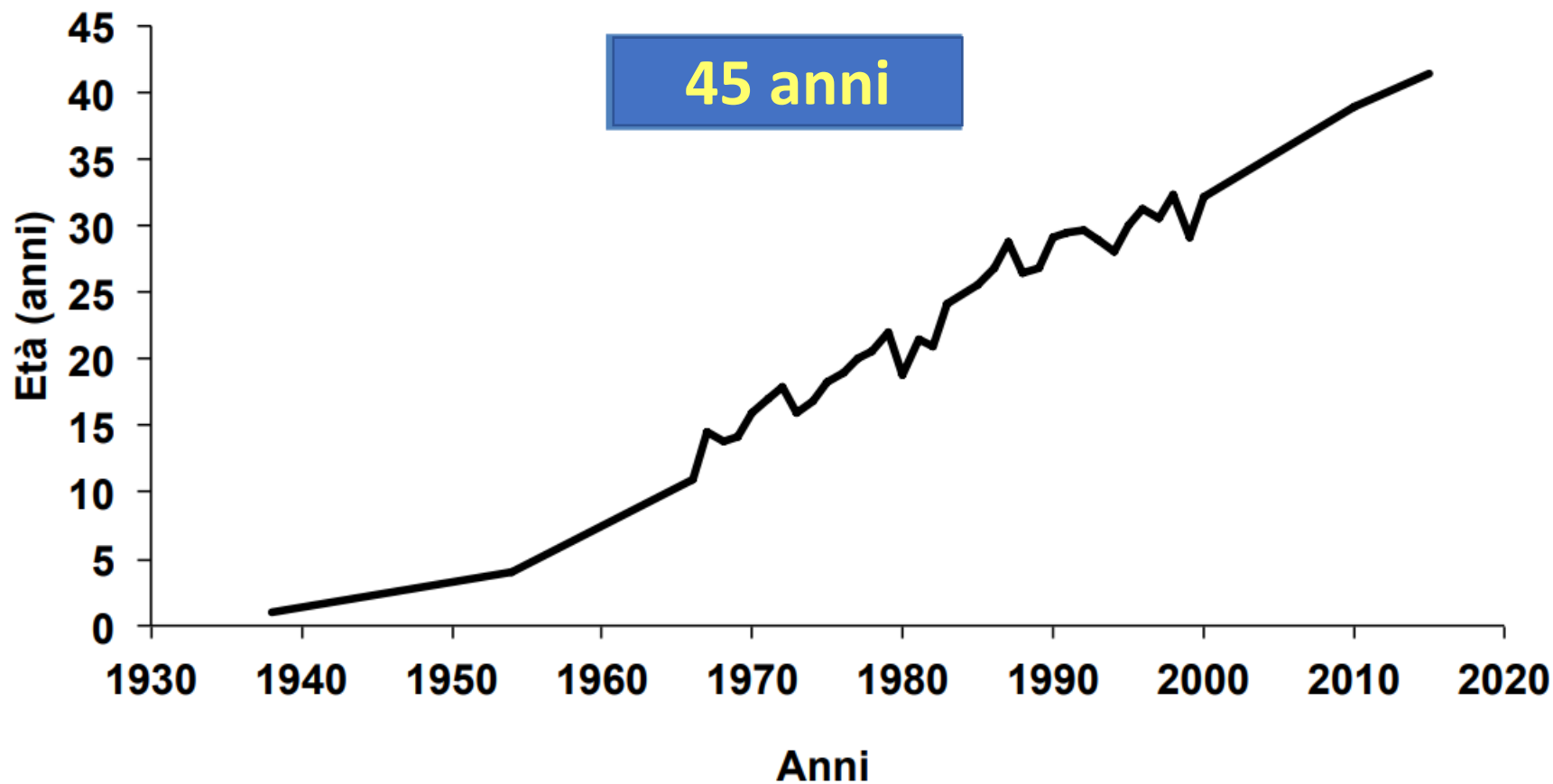




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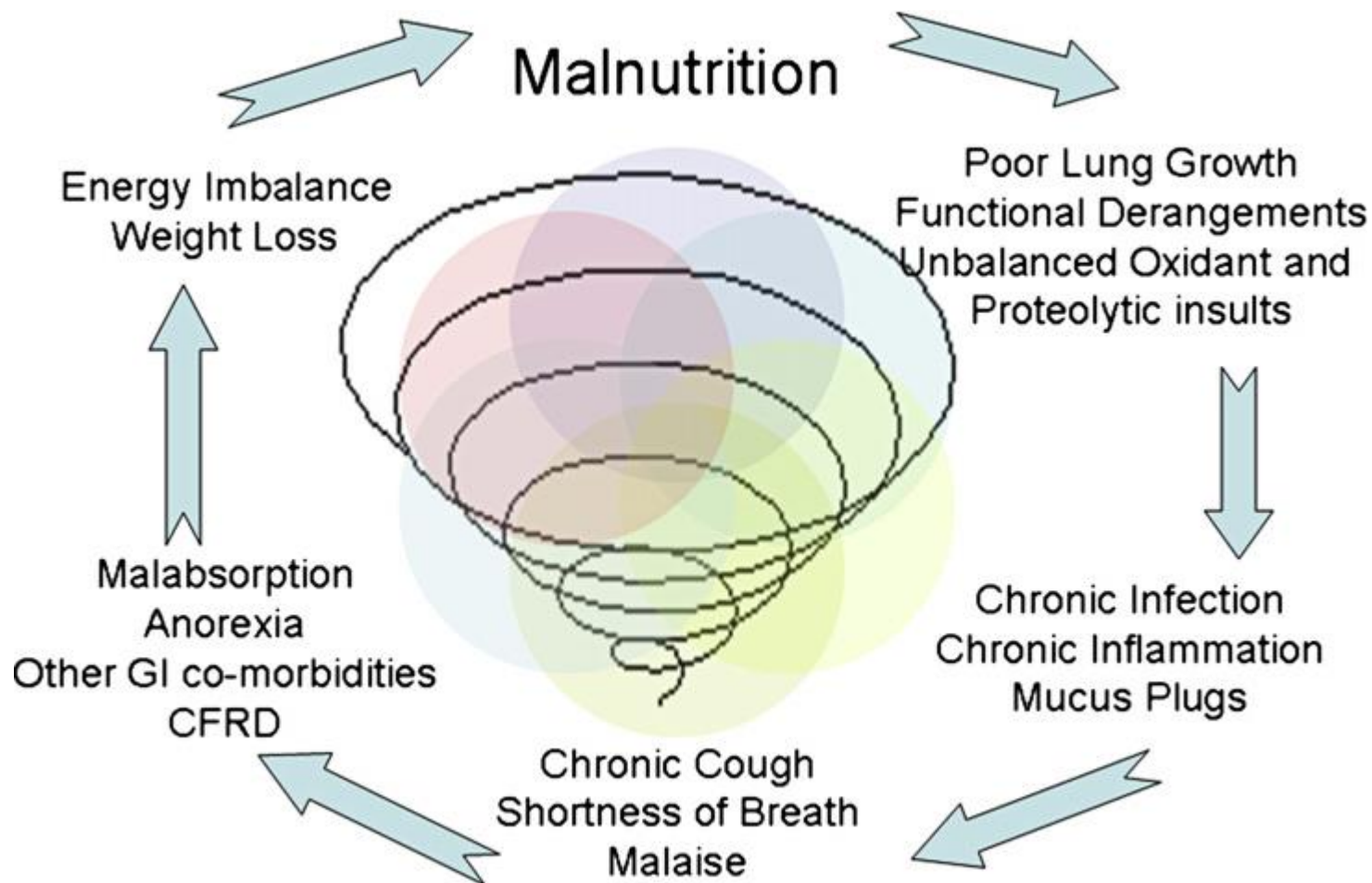
Ritorno al futuro

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LA MALNUTRIZIONE NELLA FIBROSI CISTICA



Aumento del
dispendio energetico

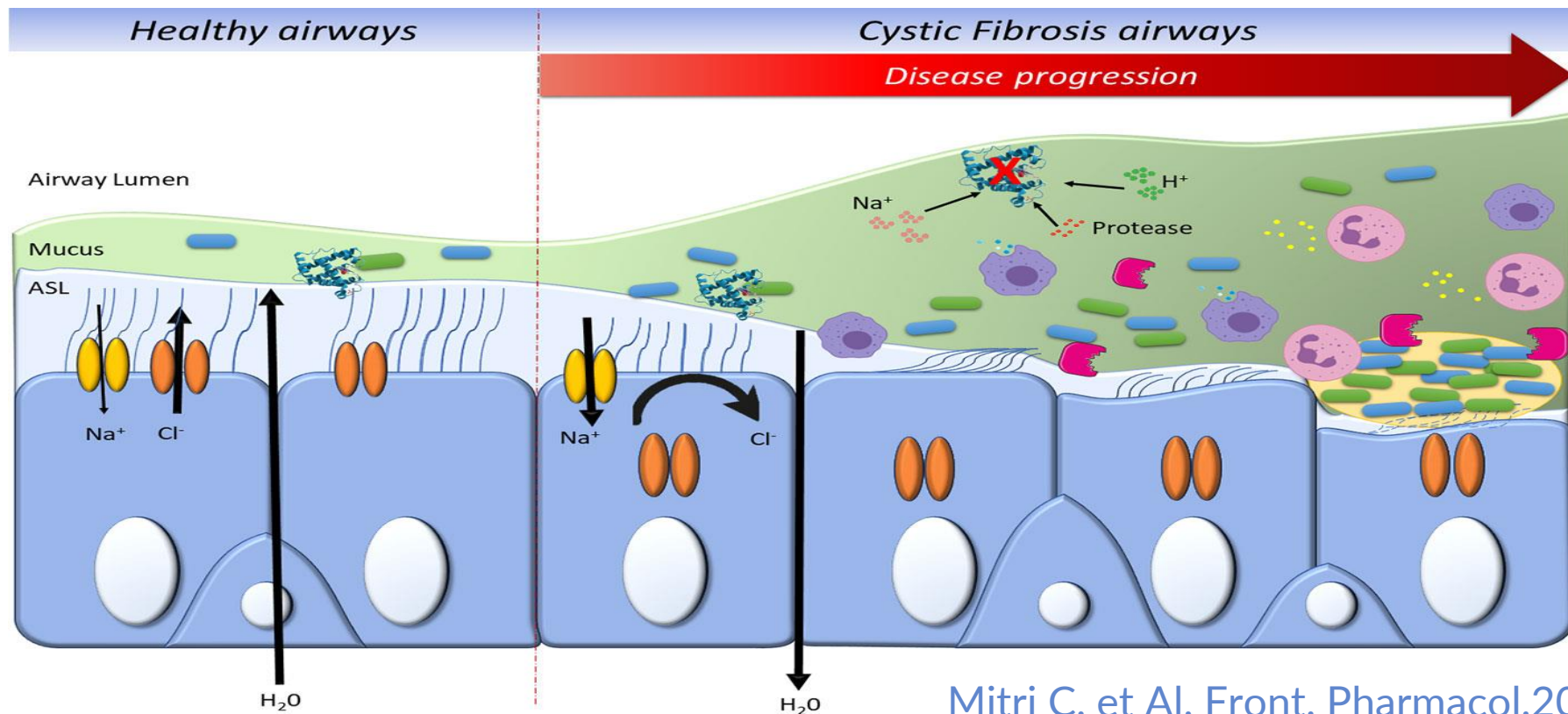
Aumento del
fabbisogno energetico

Malassorbimento

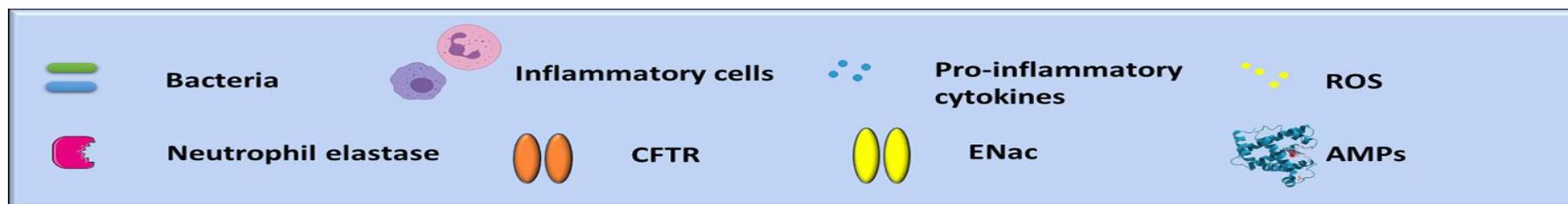
Apporto calorico
inadeguato



Inflammation and Cystic Fibrosis

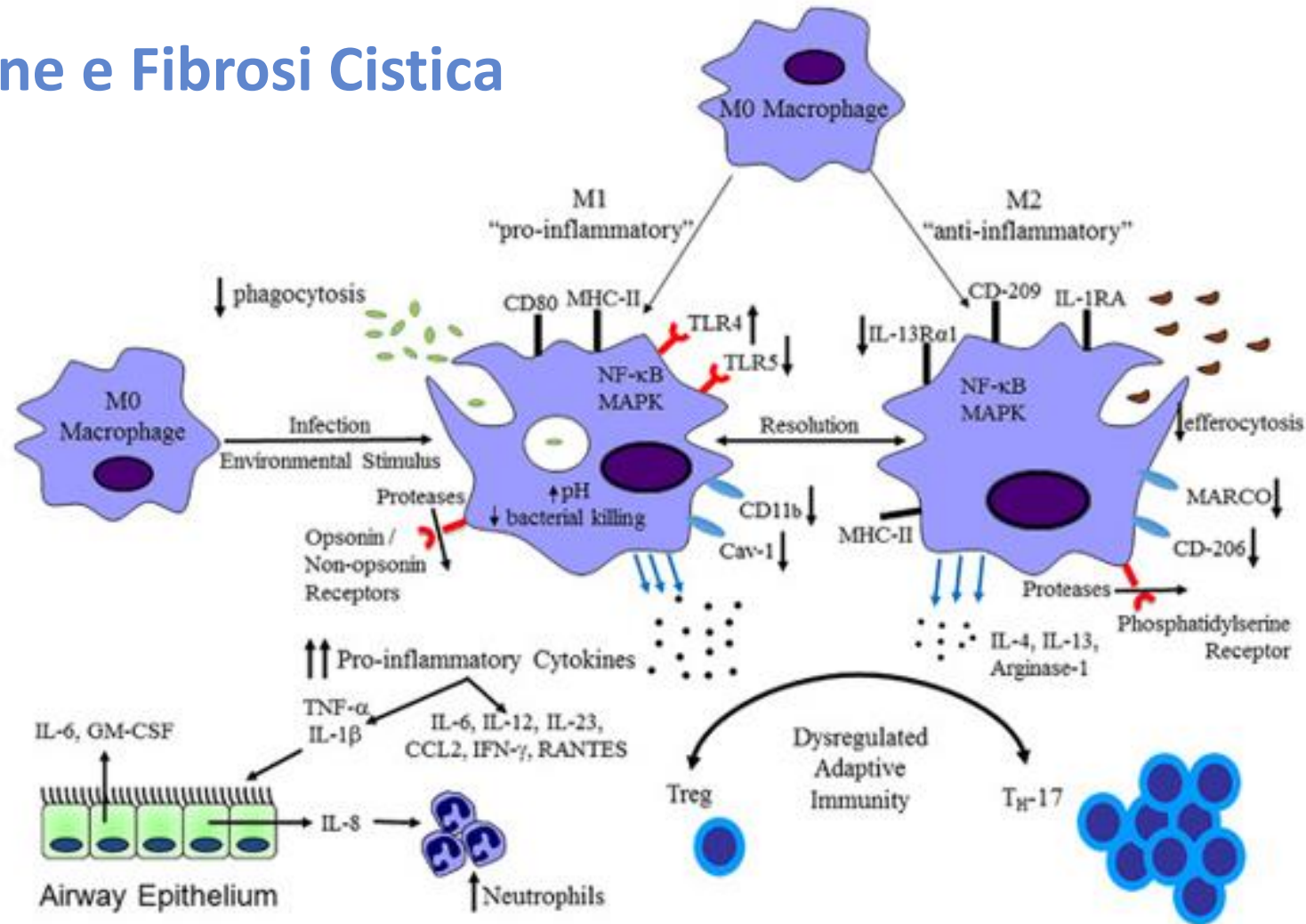


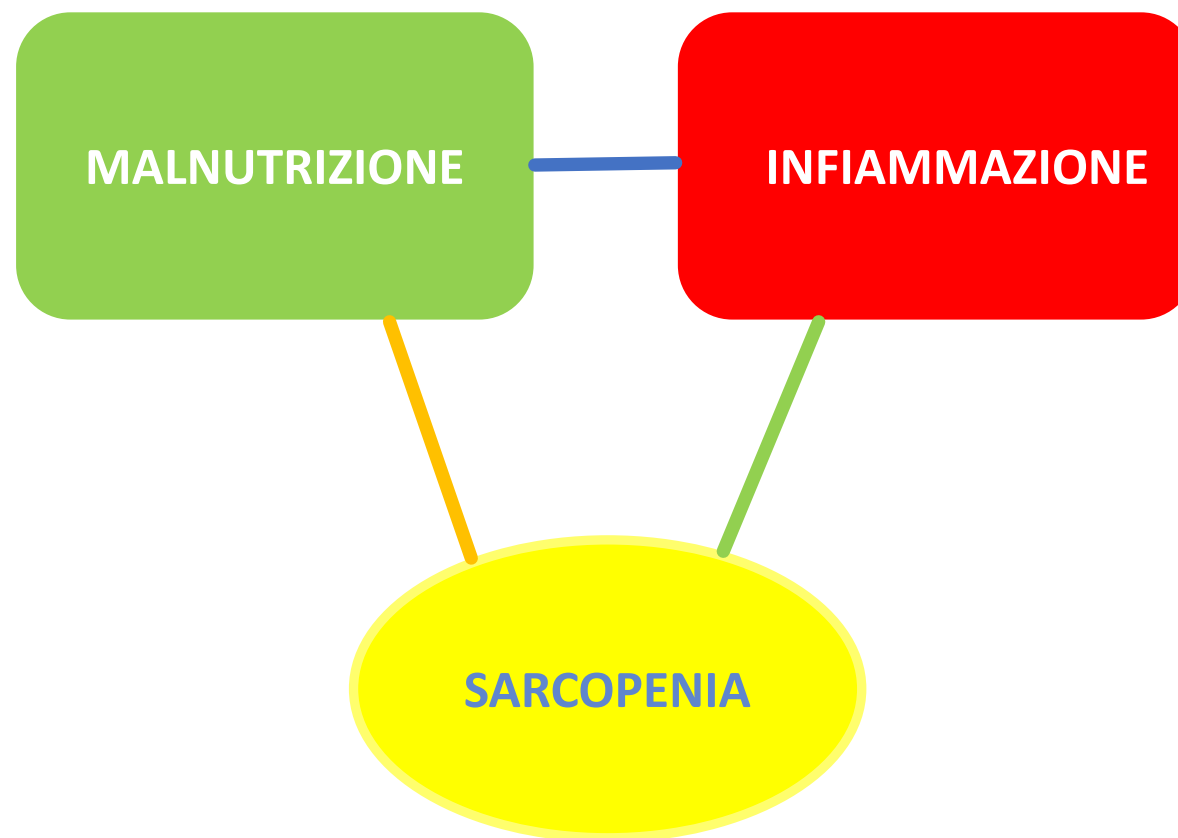
Mitri C. et Al. Front. Pharmacol.2020





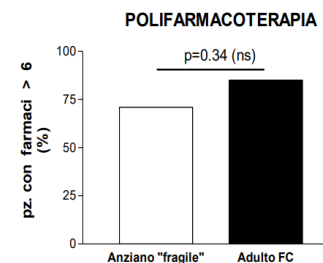
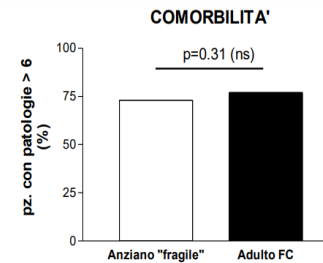
Inflammation and Cystic Fibrosis







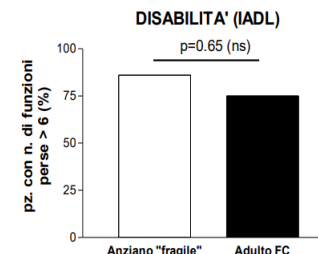
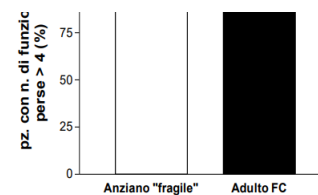
Prevalenza di comorbilità e polifarmacoterapia



Carnovale et al Orizzonti FC 2003

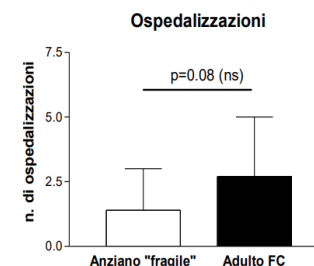
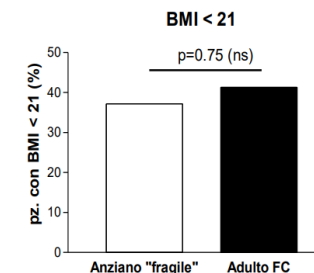
La fibrosi cistica dell'adulto è un paradigma di fragilità

Prevalenza di disabilità nelle attività di base (BADL) e strumentali (IADL) della vita quotidiana

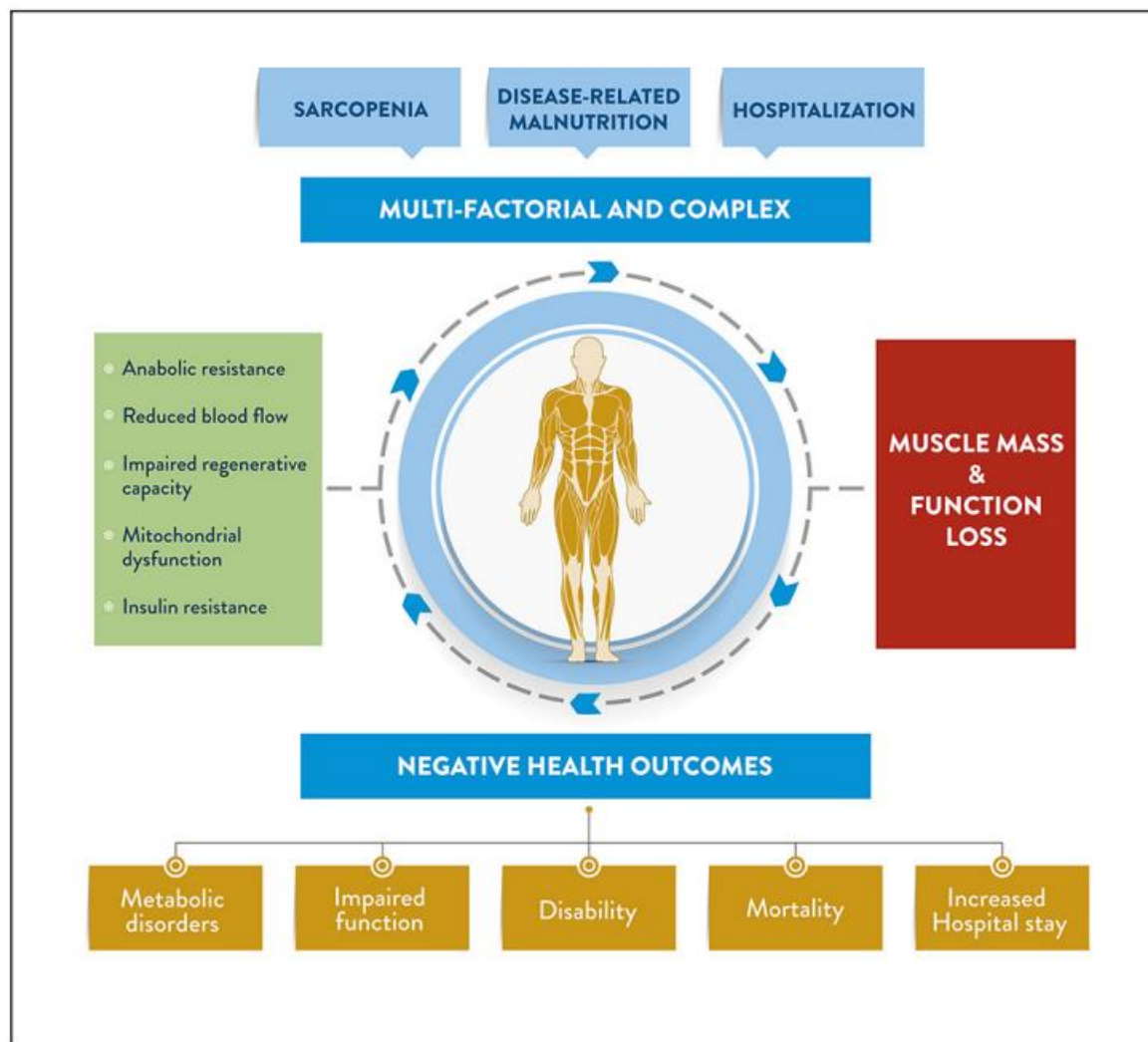


Carnovale et al Orizzonti FC 2003

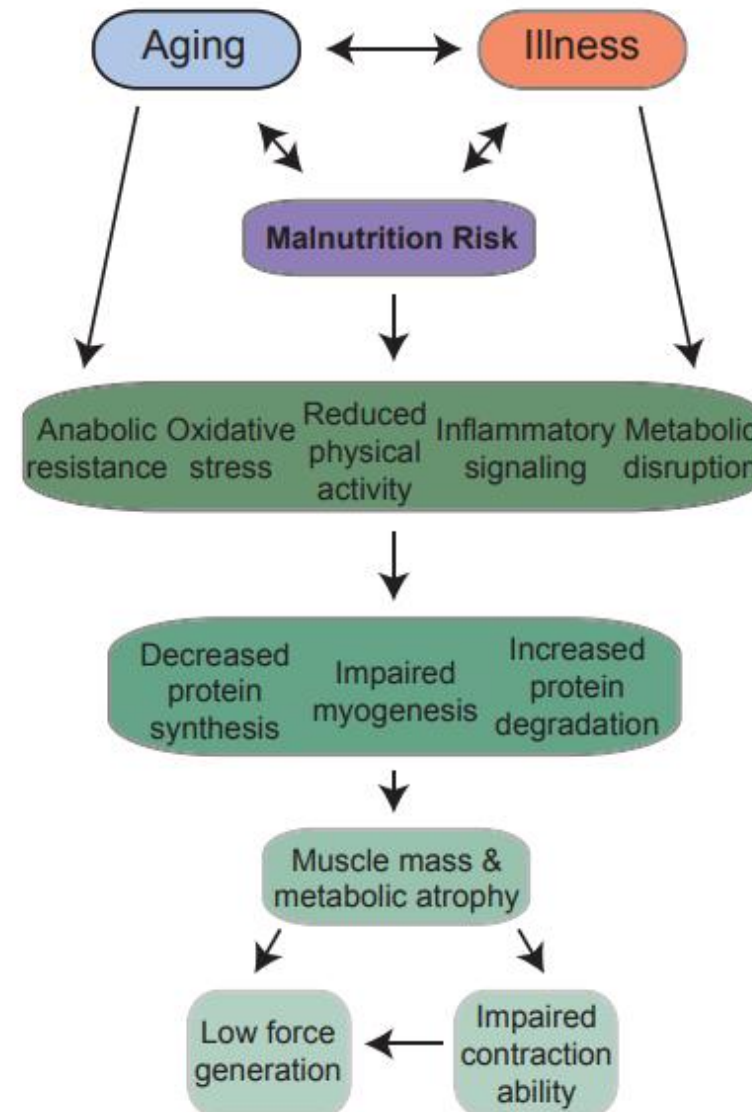
Prevalenza di ridotto indice di massa corporea (BMI <21) ed ospedalizzazioni



Carnovale et al Orizzonti FC 2003



Sans-Paris A. et Al., J Nutr Health Aging 2018



Argilés J. M. et Al., JAMDA 2016



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Journal of Gerontology: MEDICAL SCIENCES
2002, Vol. 57A, No. 5, M326-M332

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Relationship of Interleukin-6 and Tumor Necrosis Factor- α With Muscle Mass and Muscle Strength in Elderly Men and Women: The Health ABC Study

Marjolein Visser,^{1,2} Marco Pahor,³ Dennis R. Taaffe,^{2,4} Bret H. Goodpaster,⁵
Eleanor M. Simonsick,² Anne B. Newman,⁶ Michael Nevitt,⁷ and Tamara B. Harris²

The American Journal of Medicine (2006) 119, 526.e9-526.e17



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CLINICAL RESEARCH STUDY

Inflammatory Markers and Loss of Muscle Mass (Sarcopenia) and Strength

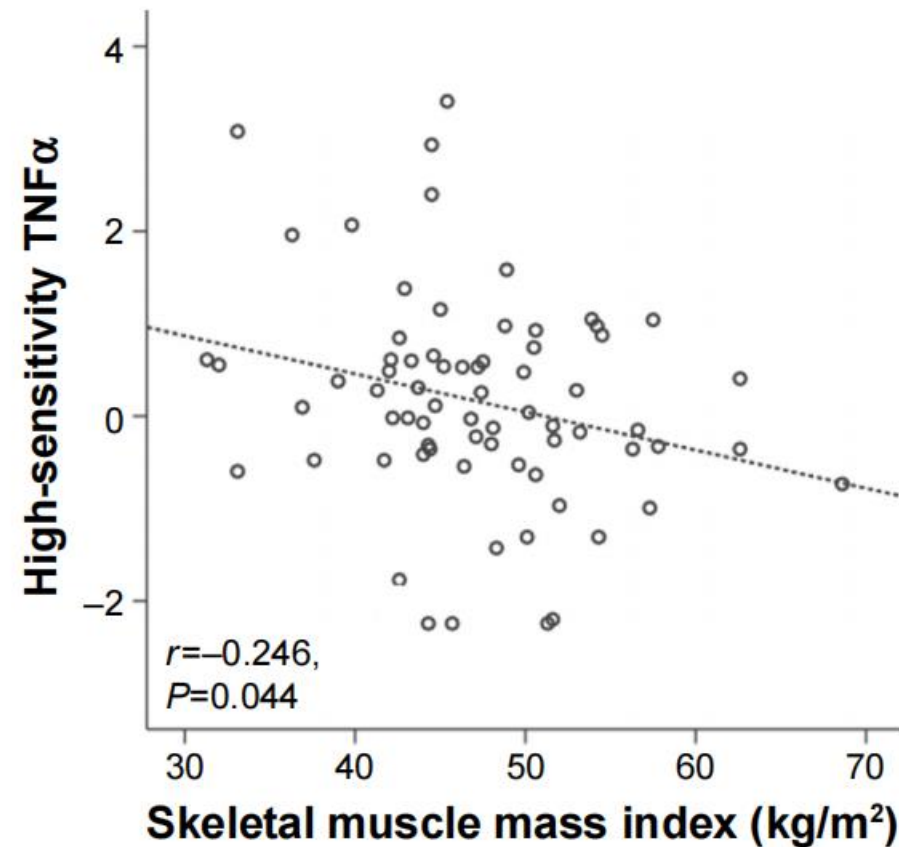
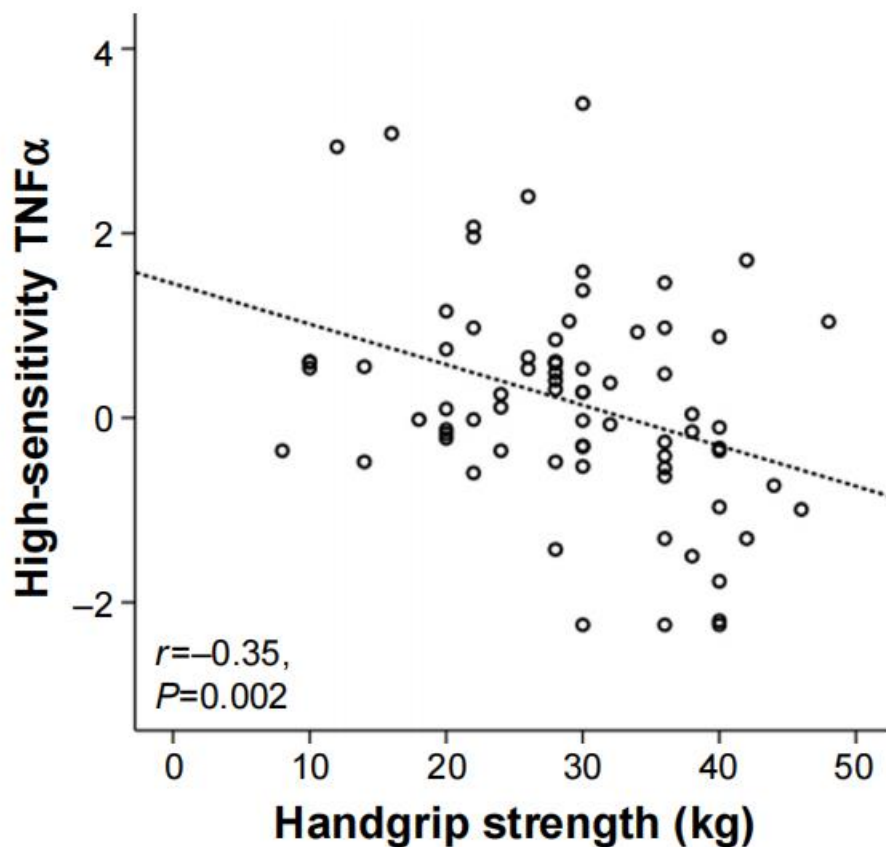
Laura A. Schaap, MSc,^a Saskia M.F. Pluijm, PhD,^a Dorly J.H. Deeg, PhD,^a Marjolein Visser, PhD^{a,b}

^aInstitute for Research in Extramural Medicine (EMGO Institute), VU University Medical Center; ^bInstitute of Health Sciences, Faculty of Earth and Life Sciences, Vrije Universiteit, Amsterdam, The Netherlands.

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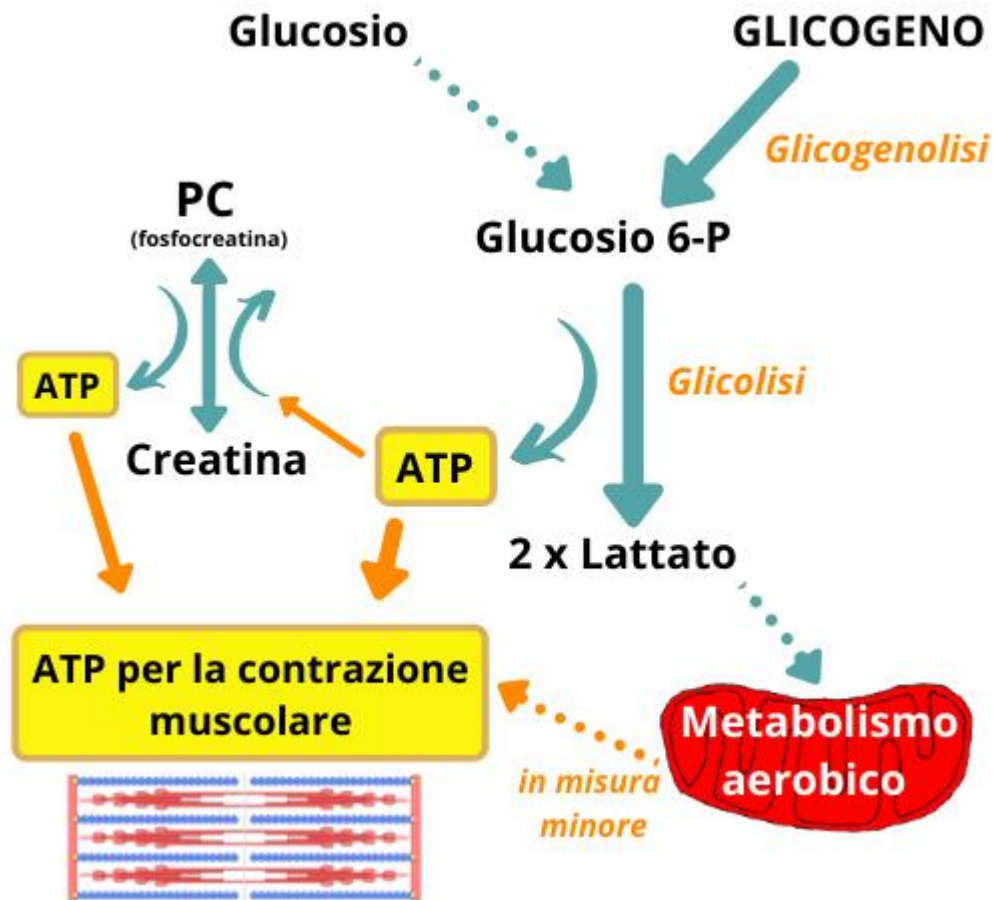


Indici infiammatori e forza muscolare nei pazienti affetti da patologia polmonare cronica





IL METABOLISMO ENERGETICO

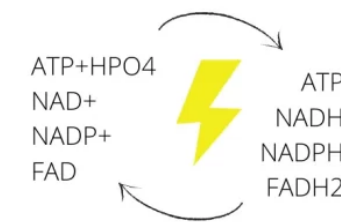


Nutrienti ricchi di energia
Carboidrati
Lipidi
Proteine

Processo Ossidativo
CATABOLISMO

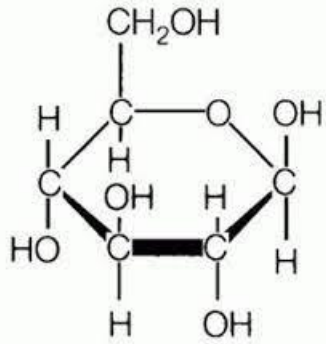
Prodotti finali poveri di energia:
CO₂,
H₂O, NH₃

Macromolecole
Proteine
Polisaccaridi
Acidi nucleici

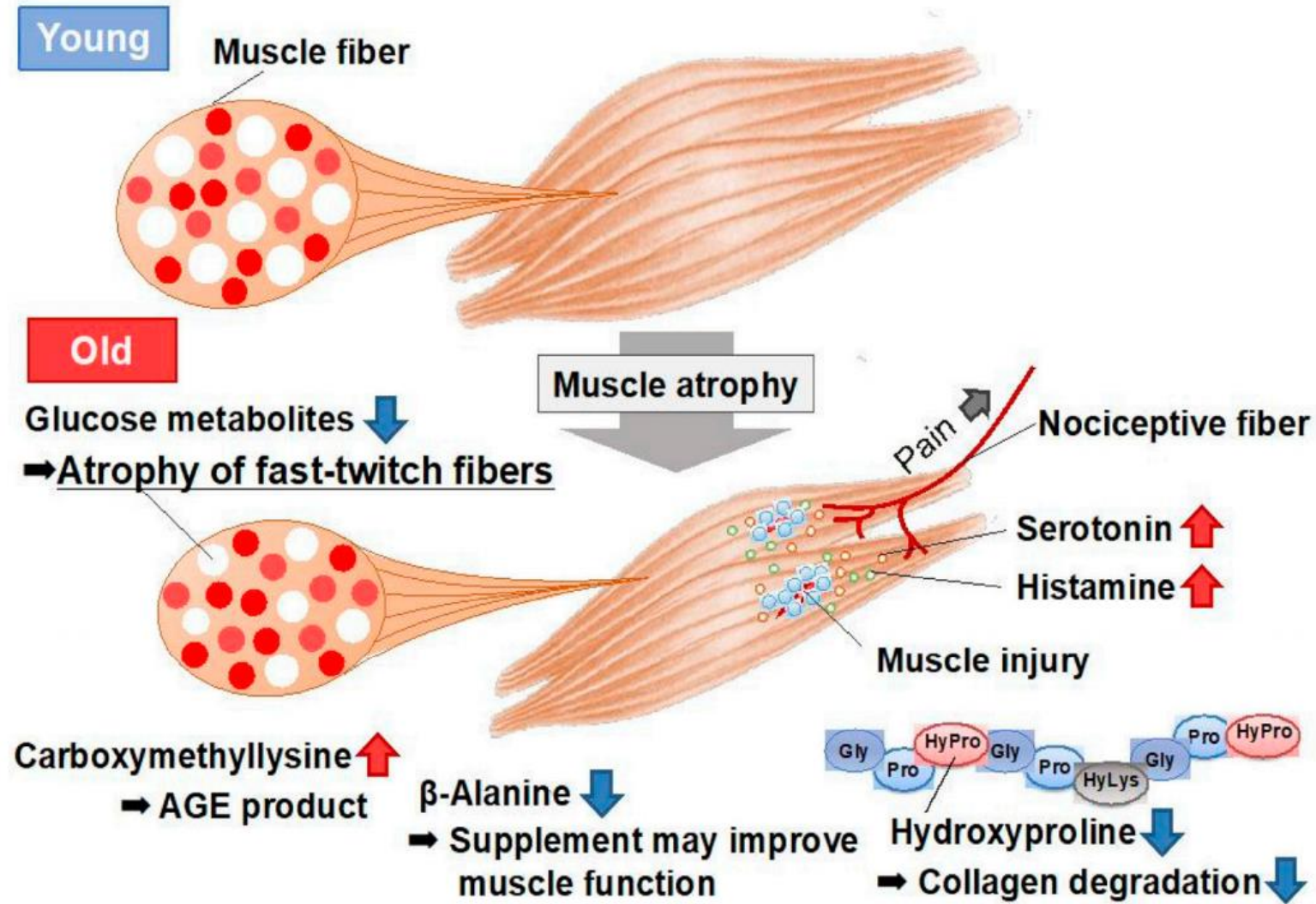


Molecole precursori:
Aminoacidi,
zuccheri, acidi grassi,
basi azotate.

ANABOLISMO
Processo Riduttivo

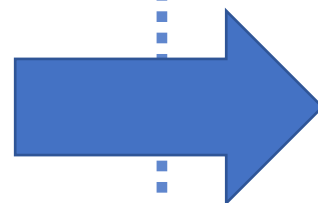
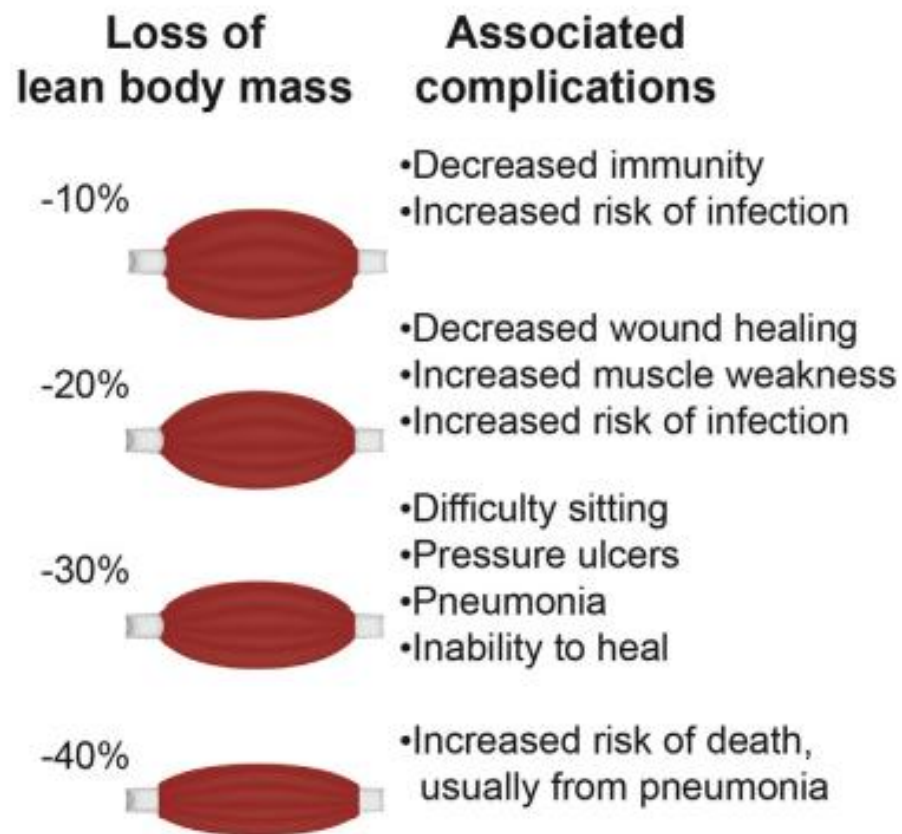


GLUCOSIO

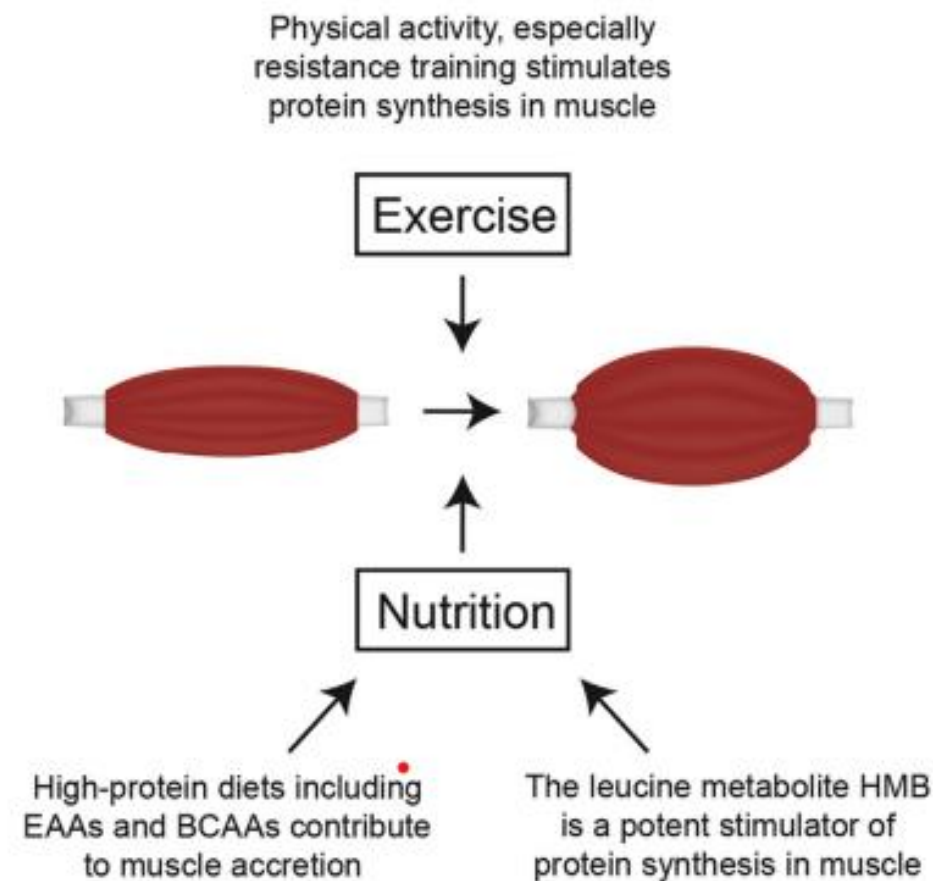




Complicanze associate alla perdita di massa muscolare nella patologia polmonare cronica



Effetti dell'esercizio e della supplementazione aminoacidica



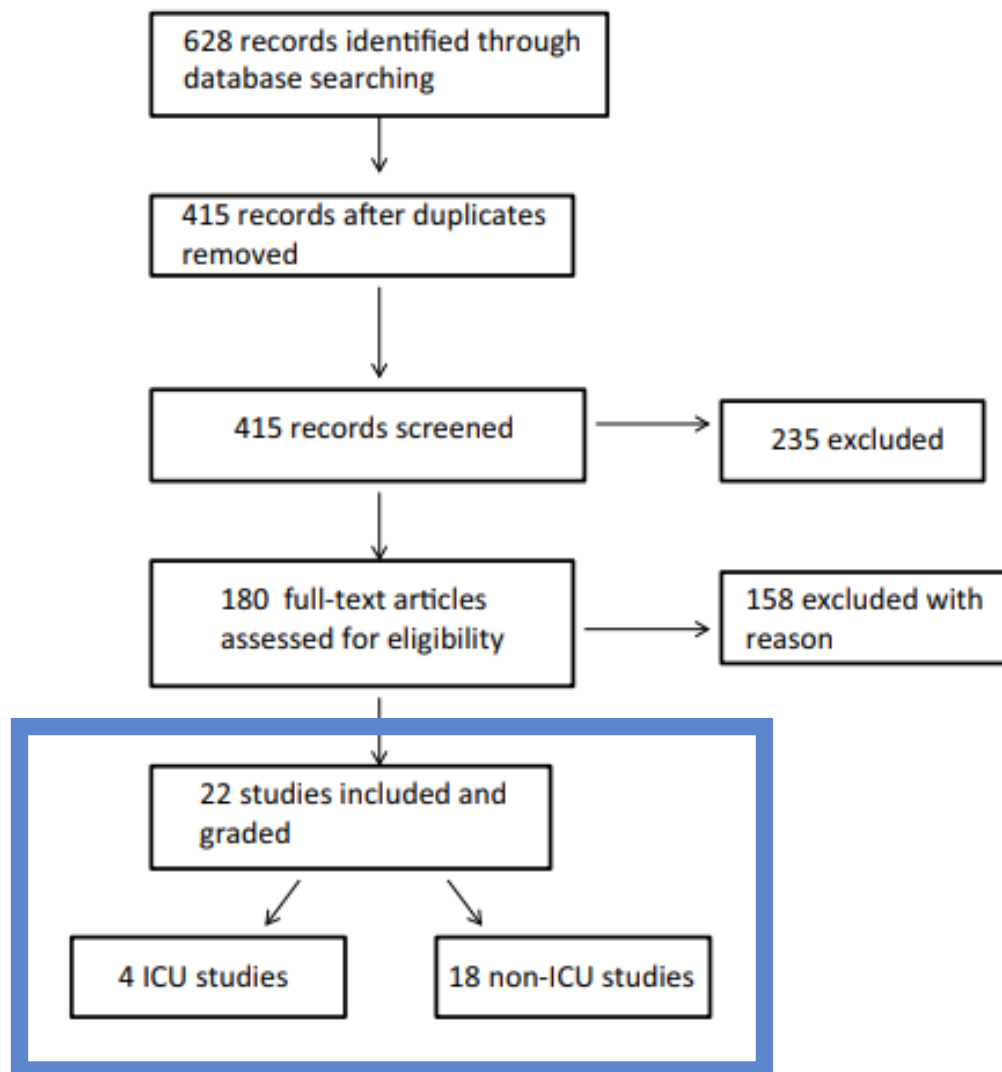


Identification

Screening

Eligibility

Included



- La metodologia e la qualità degli studi analizzati risultavano essere troppo varie per dedurre conclusioni definitive.
- La supplementazione dietetica con aminoacidi essenziali arricchiti con leucina (EAA), b-idrossi-b-metilbutirrato e creatina richiede ulteriori studi nei pazienti critici.
- Gli EAA hanno portato a miglioramenti nella composizione corporea e nello stato nutrizionale in altri setting di pazienti con sarcopenia.



J Nutr Health Aging. 2018;22(6):664-675

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ROLE OF ORAL NUTRITIONAL SUPPLEMENTS ENRICHED WITH B-HYDROXY-B-METHYLBUTYRATE IN MAINTAINING MUSCLE FUNCTION AND IMPROVING CLINICAL OUTCOMES IN VARIOUS CLINICAL SETTINGS

A. SANZ-PARIS¹, M. CAMPRUBI-ROBLES², J.M. LOPEZ-PEDROSA², S.L. PEREIRA³, R. RUEDA², M.D. BALLESTEROS-POMAR⁴, J.M. GARCIA ALMEIDA⁵, A.J. CRUZ-JENTOFT⁶

1. Nutrition Unit, University Hospital Miguel Servet, Zaragoza, Spain; 2. Abbott Nutrition, Research and Development, Granada, Spain; 3. Abbott Nutrition, Research & Development, Columbus, OH, USA; 4. Complejo Asistencial Universitario de León; León, Spain; 5. Hospital Virgen de la Victoria de Málaga, Spain; 6. Geriatric Department, Hospital Universitario Ramón y Cajal, Instituto Ramón y Cajal de Investigación Sanitaria (IRYCIS), Madrid, Spain. Corresponding author: Alejandro Sanz-Paris, Nutrition Unit, University Hospital Miguel Servet, Isabel the Catholic 1-3, Zaragoza 50009, Spain. asanzp@salud.aragon.es

HMB-enriched ONS in community dwelling older adults

HMB-enriched ONS in patients in peri-hospitalization setting



Nutrition 102 (2022) 111725



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Contents lists available at [ScienceDirect](#)

Nutrition

journal homepage: www.nutritionjrn.com



Review

Improving nutrition in cystic fibrosis: A systematic literature review

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^b Cystic Fibrosis Centre, Pediatric Hospital, Dziekanów Leśny, Poland

^c Collegium Medicum of Jan Kochanowski University, Kielce, Poland



PERT

Choline

Vitamins

Probiotics



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Effects of oral amino acid supplementation on peripheral muscle strength, systemic inflammation, and pulmonary exacerbations in adult patients with Cystic Fibrosis: a single center randomized, double-blind, placebo-controlled pilot study



La terapia con supplementazione aminoacidica consisteva in **2 bustine/die** contenenti 20.6 kcal e **4 g di aminoacidi** (inclusi gli aminoacidi essenziali) **per 4 settimane**.

Placebo e formula di integrazione aminoacidica condividevano **solo eccipienti**, intesi come agenti non terapeutici.

Valore energetico	20.6 Kcal
Grassi	0.15 g
Carboidrati	0.25
Proteine	0
L-Leucina	1250 mg
L-Lisina	650 mg
L-Isoleucina	625 mg
L-Valina	625 mg
L-Treonina	350 mg
L-Cistina	150 mg
L-Istidina	150 mg
L-Fenilalanina	100 mg
L-Metionina	50 mg
L-Tirosina	30 mg
L-Triptofano	20 mg
Vitamina B6	0.15 mg
Vitamina B1	0.15 mg



Criteri di esclusione:

- Storia di qualsiasi comorbidità che potesse confondere i risultati dello studio o comportare un rischio aggiuntivo nell'assunzione di integrazione aminoacidica;
- Valori di laboratorio anormali alla visita di screening, come un tasso di filtrazione glomerulare ≤ 50 mL/min/1,73 m²;
- Infezione acuta delle vie respiratorie superiori o inferiori, esacerbazione polmonare o modifiche alla terapia (compresi gli antibiotici) per la malattia polmonare nelle 4 settimane precedenti l'inizio dello studio;
- Colonizzazione da organismi associati a un declino più rapido dello stato polmonare (ad esempio, *Burkholderia cenocepacia*, *Burkholderia dolosa* e *Mycobacterium abscessus*);
- Storia di trapianto di organo solido o ematologico;
- Storia di abuso di alcol o droghe nell'ultimo anno;
- Gravidanza e allattamento al seno;
- Assunzione di altri integratori contenenti aminoacidi.

60 PZ



Cystic Fibrosis Questionnaire-Revised (CFQ-R): Variazioni assolute rispetto al baseline

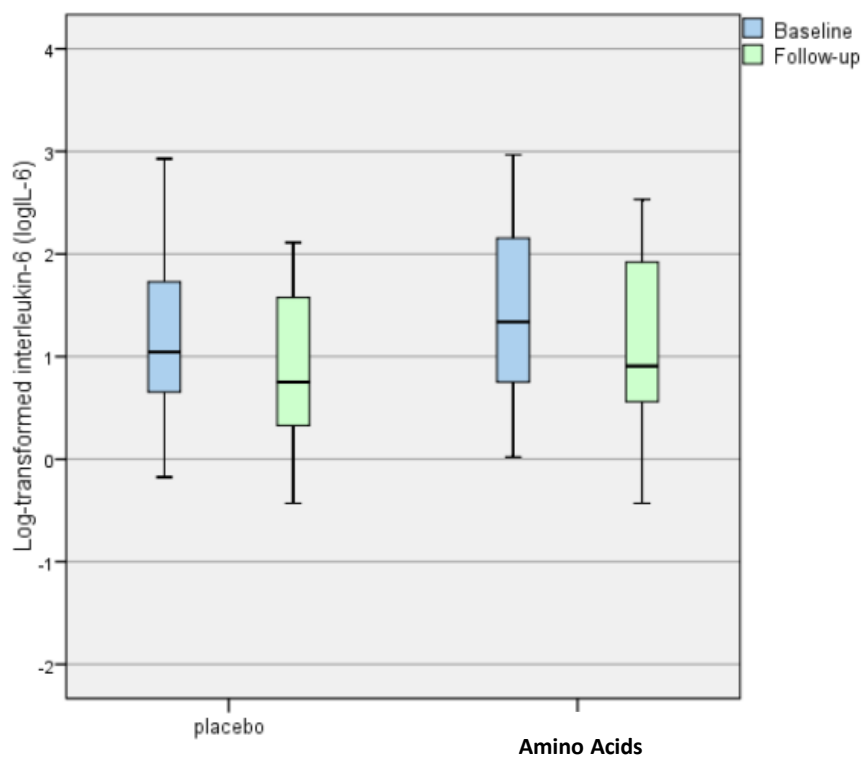
Cystic Fibrosis Questionnaire-Revised (CFQ-R) Follow-up Visit (Week 24)									
	placebo				Amino Acids				Wilcoxon Rank-Sum test p-value
	N	Mean	SD	Median	N	Mean	SD	Median	
Physical	24	57.29	30.274	50.00	22	68.44	25.124	72.91	.238
Vitality	24	57.28	26.044	58.30	22	71.26	20.356	67.20	.045
Emotion	24	70.45	20.658	66.70	22	84.85	15.418	86.70	.008
Eat	24	93.52	13.479	100.00	22	95.46	11.697	100.00	.418
Treat	24	53.71	18.460	55.60	22	60.62	18.072	55.60	.195
Health	24	59.26	27.556	61.15	22	69.72	19.753	66.70	.188
Social	24	66.43	17.755	66.65	22	74.49	17.358	77.80	.091
Body	24	72.23	21.742	72.25	22	87.38	16.549	88.90	.015
Role	24	78.13	22.634	83.30	22	89.03	10.721	91.70	.218
Weight	24	81.94	34.026	100.00	22	86.37	26.544	100.00	.943
Respiratory	24	68.04	22.773	66.65	22	78.27	19.618	83.30	.116
Digestive	24	63.92	22.063	66.70	22	88.40	14.725	94.45	.000



- Interleukin 6 (IL-6) Analysis**

The data of IL-6 (Interleukin 6) is log-transformed (natural log-transformed) to follow a normal distribution.

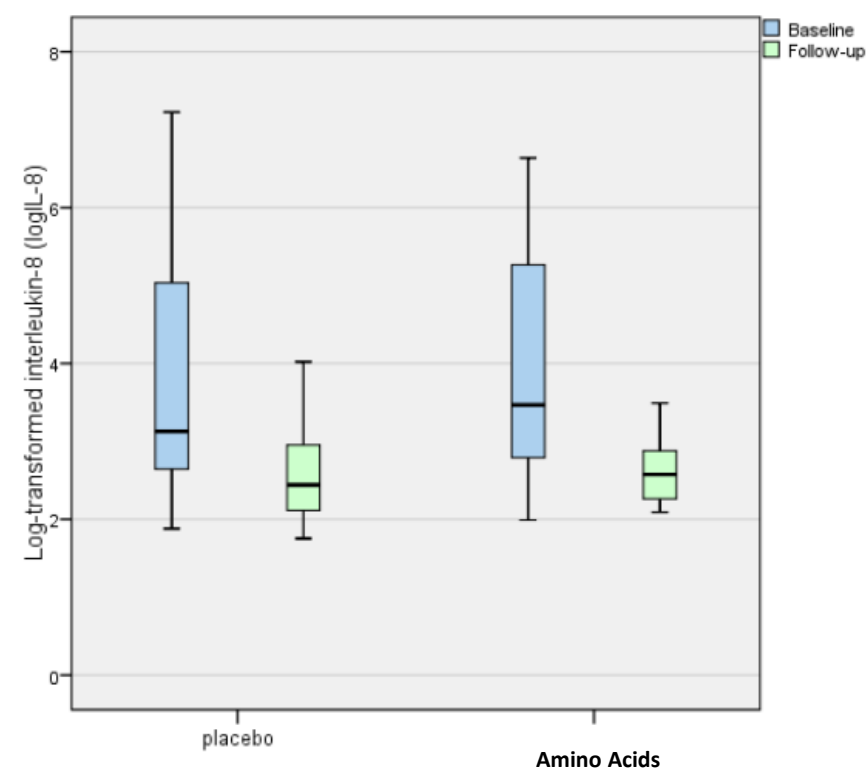
Log-transformed interleukin-6 (logIL-6): Baseline vs. Week 4



- Interleukin 8 (IL-8) Analysis**

The data of IL-8 (Interleukin 8) is log-transformed (natural log-transformed) to follow a normal distribution.

Log-transformed interleukin-8 (logIL-8): Baseline vs. Week 4





TNF alpha Analysis

Treatment		Baseline	Week 24	Week 24 - Baseline	Week 24 – Baseline (%)
placebo	N	26	23	23	23
	Mean	57.2392	19.5830	-41.1487	-12.4777
	Std. Deviation	62.46469	19.52777	66.88607	119.00772
	Median	28.4150	14.5600	-12.8400	-42.5619
Amino Acids	N	27	21	21	21
	Mean	100.7507	14.9390	-79.2786	-37.0022
	Std. Deviation	148.44046	5.59844	122.76759	67.14826
	Median	29.1500	14.5600	-30.6700	-72.8331
Wilcoxon rank sum test		-	-	0.630	0.488