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Sarcopenic Obesity: etiology and lifestyle therapy

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Conflict of interest disclosure

The authors declare that there is no conflict of interest

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INTRODUCTION

Obesity: Increase in fat deposition.



Sarcopenic Obesity (SO)

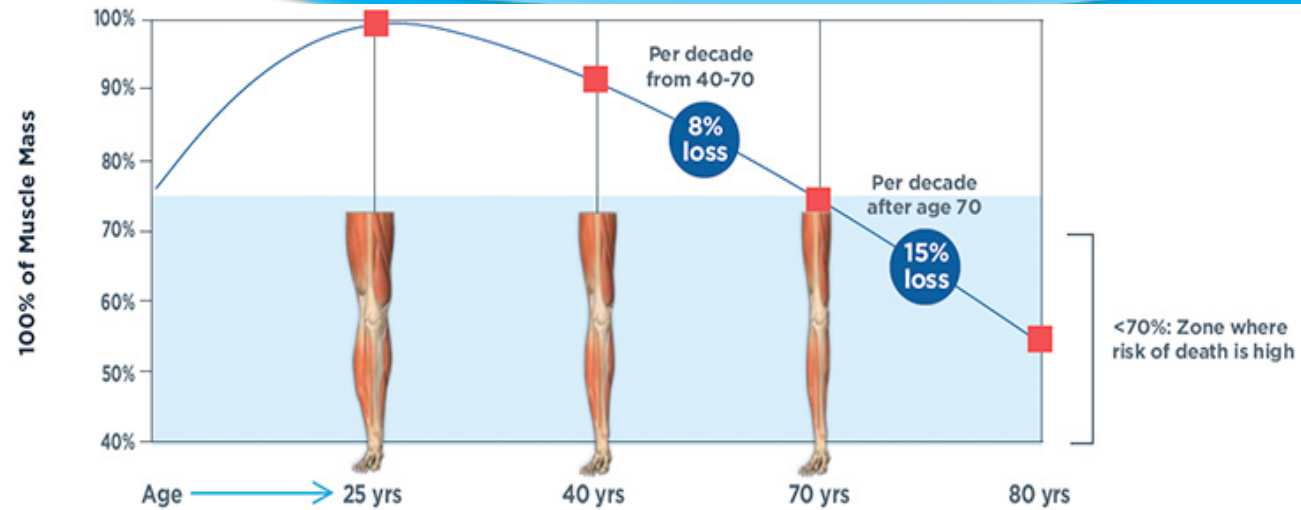
Sarcopenia: Reduction in lean mass and muscle strength.

Sarcopenic obesity by body composition phenotype.

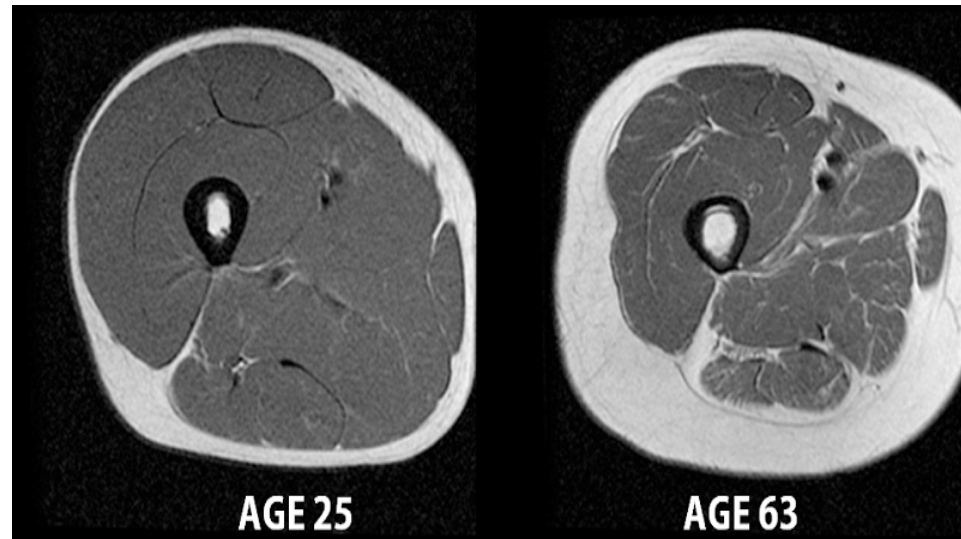
Fat mass	High	Sarcopenic obesity	Obesity
	Low	Sarcopenia	Healthy
		Low	High
		Muscle mass	

Lee DC, Shook RP, Drenowatz C, Blair SN. Physical activity and sarcopenic obesity: definition, assessment, prevalence and mechanism. *Future Sci OA*. 2016;2(3):FSO127. Published 2016 Jul 14. doi:10.4155/fsoa-2016-0028

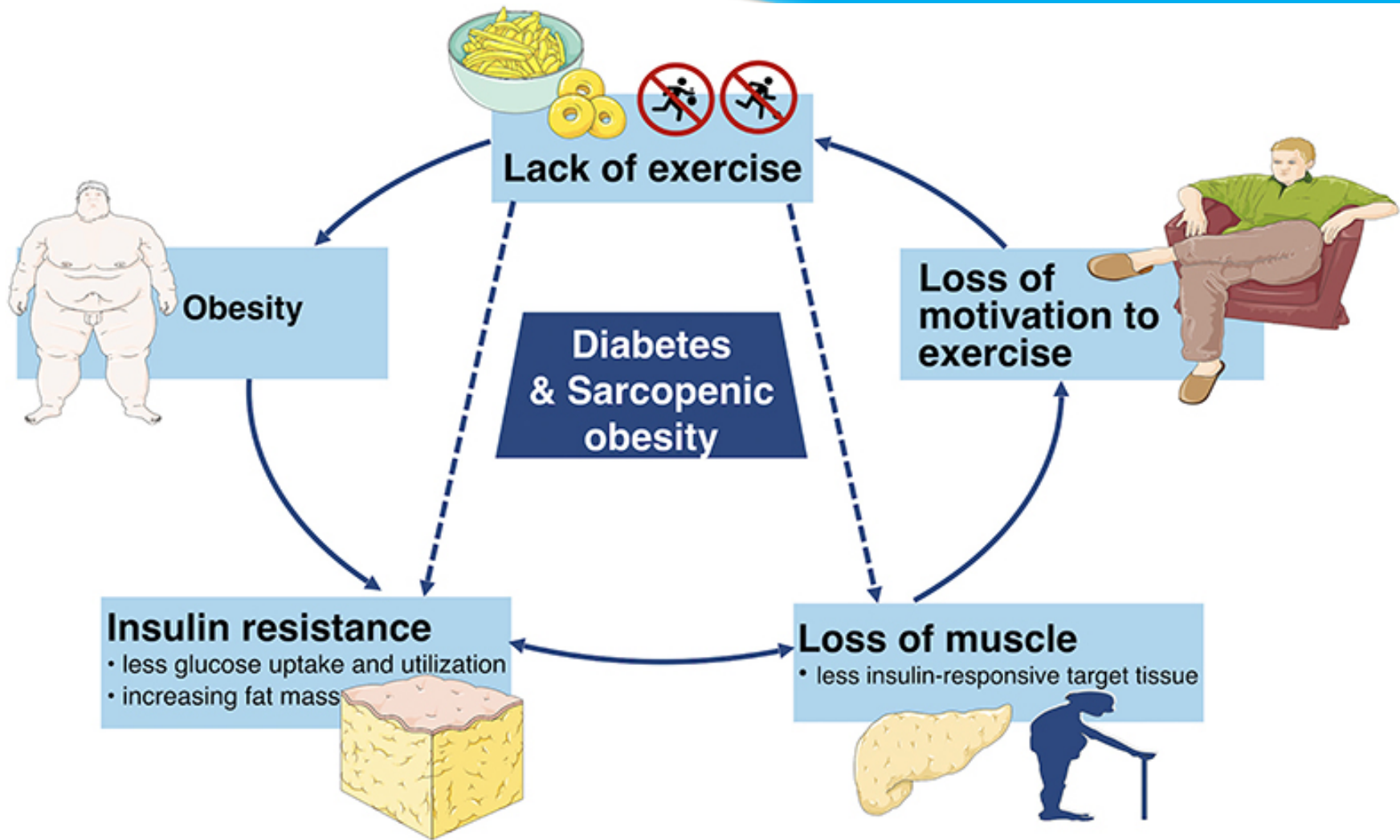
Age-related losses in skeletal muscle mass



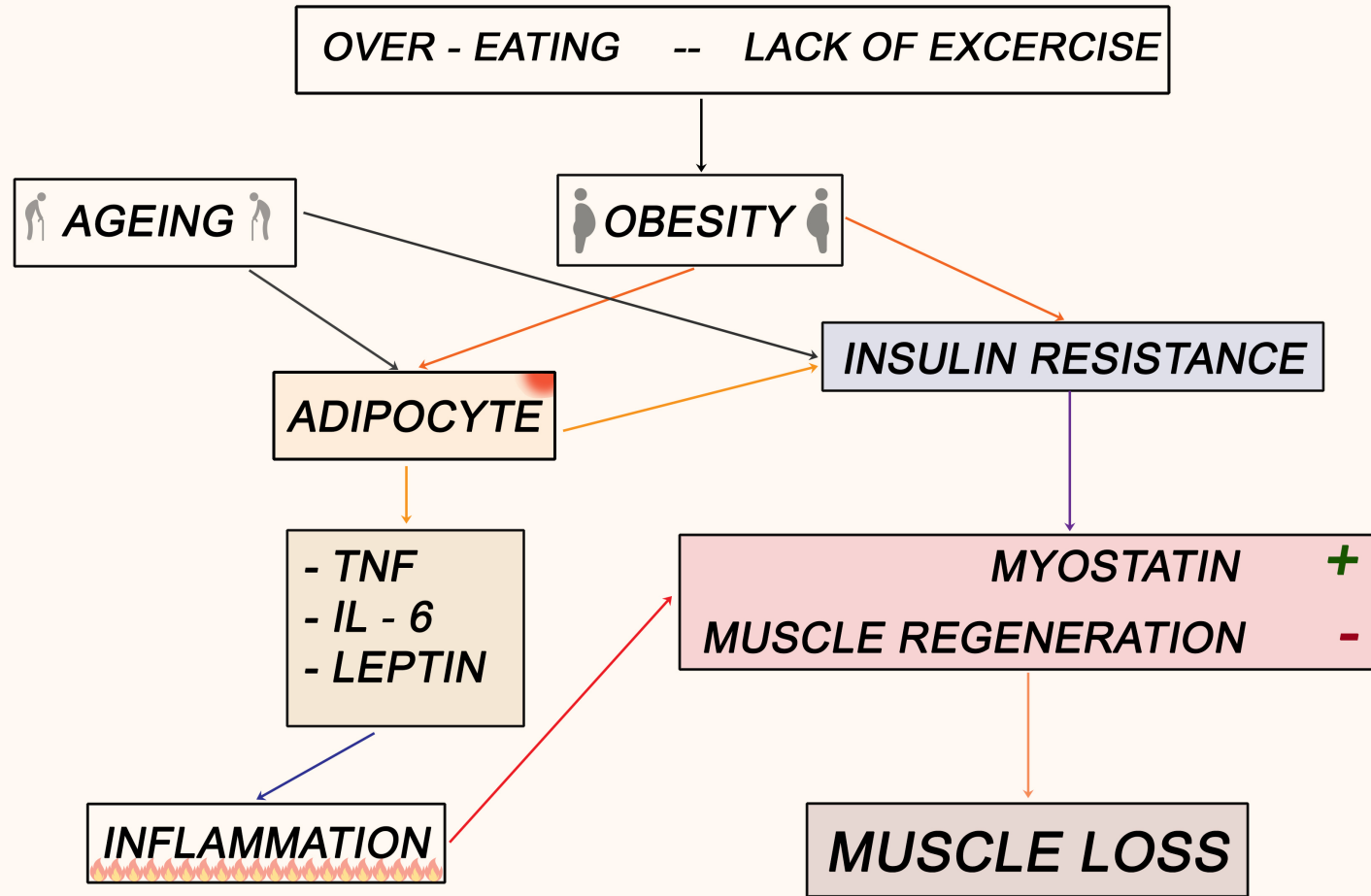
Amount of body fat increases after age 30

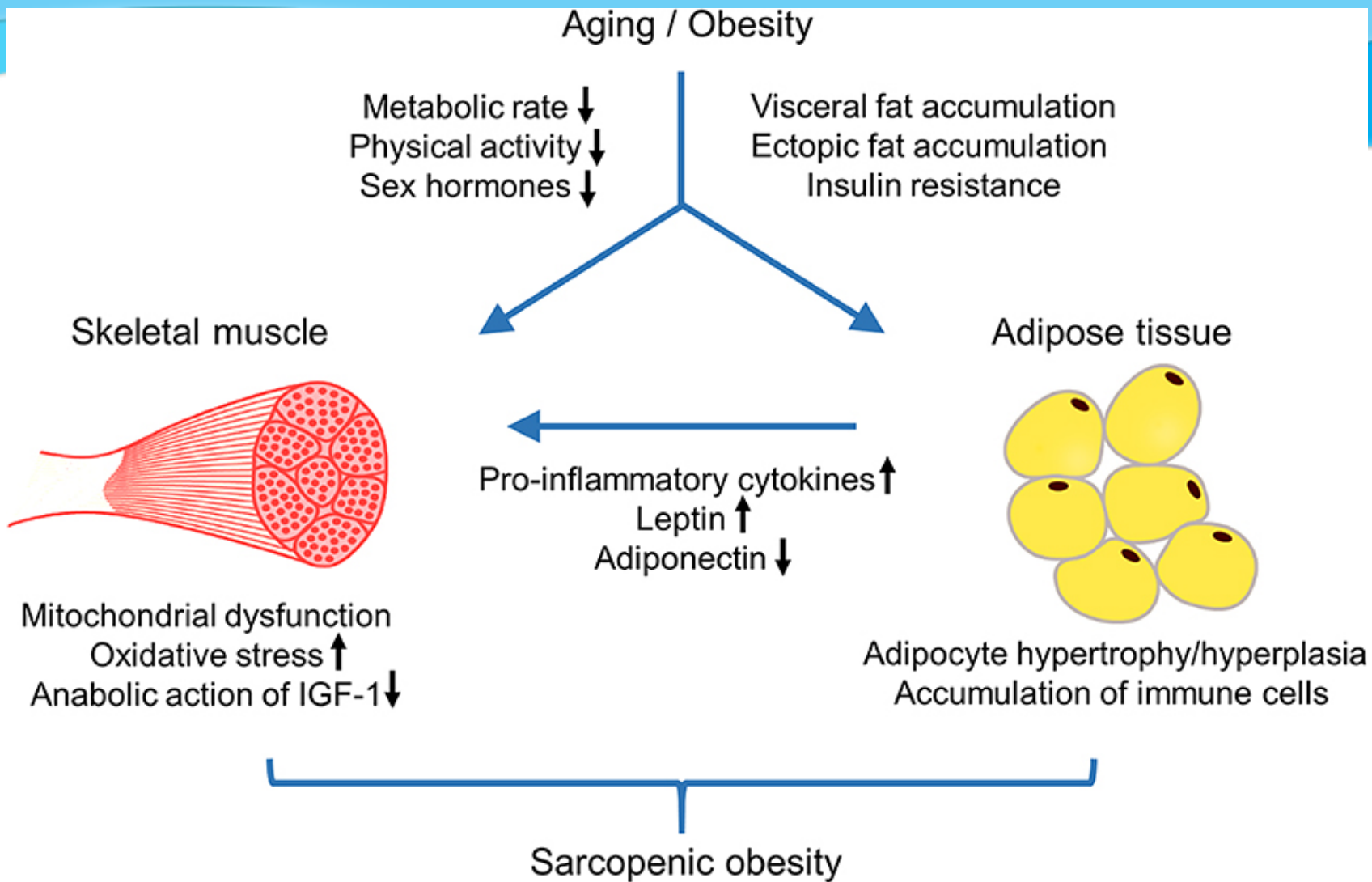


The vicious cycle of unhealthy lifestyle

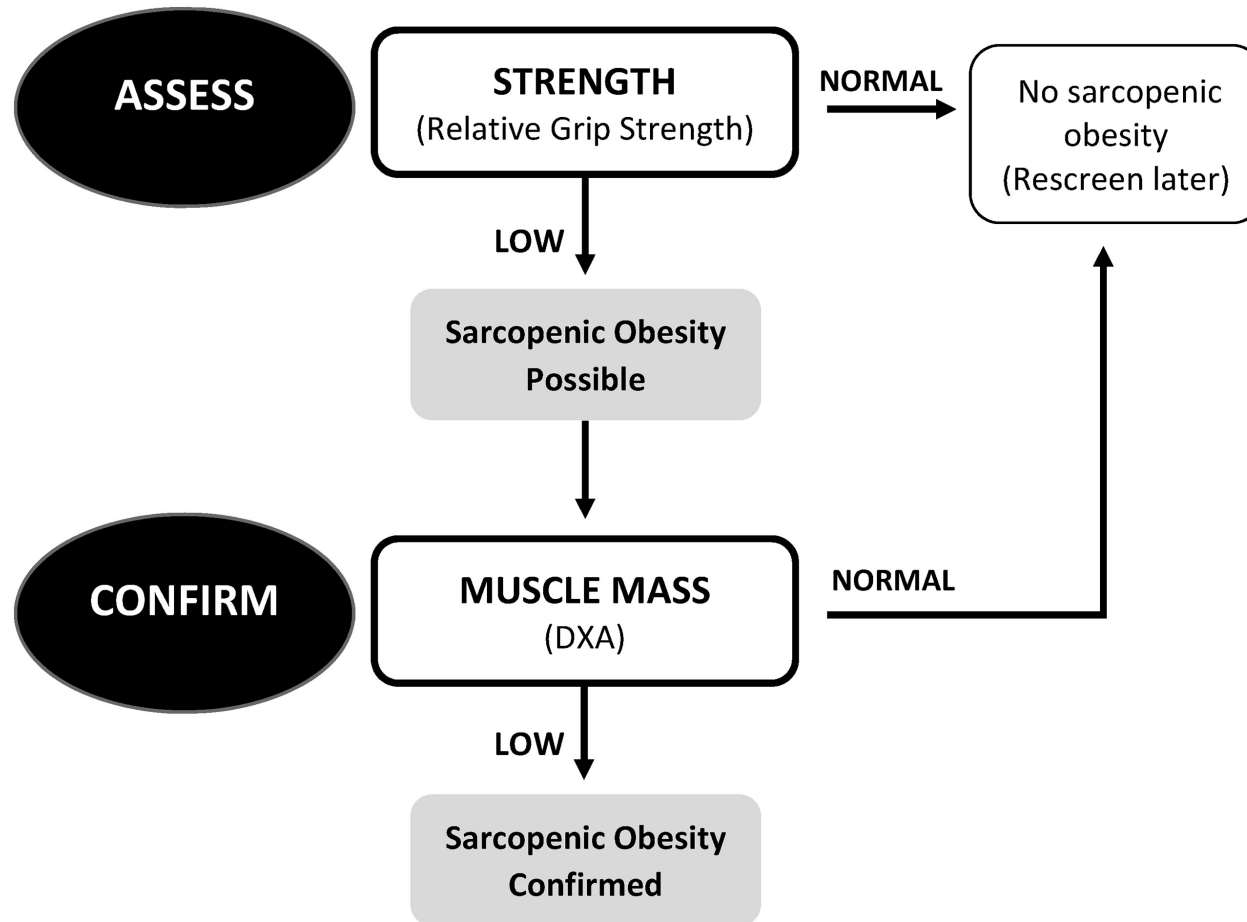


Explanatory model of the mechanisms that favor the onset of sarcopenic obesity (SO)





DIAGNOSIS



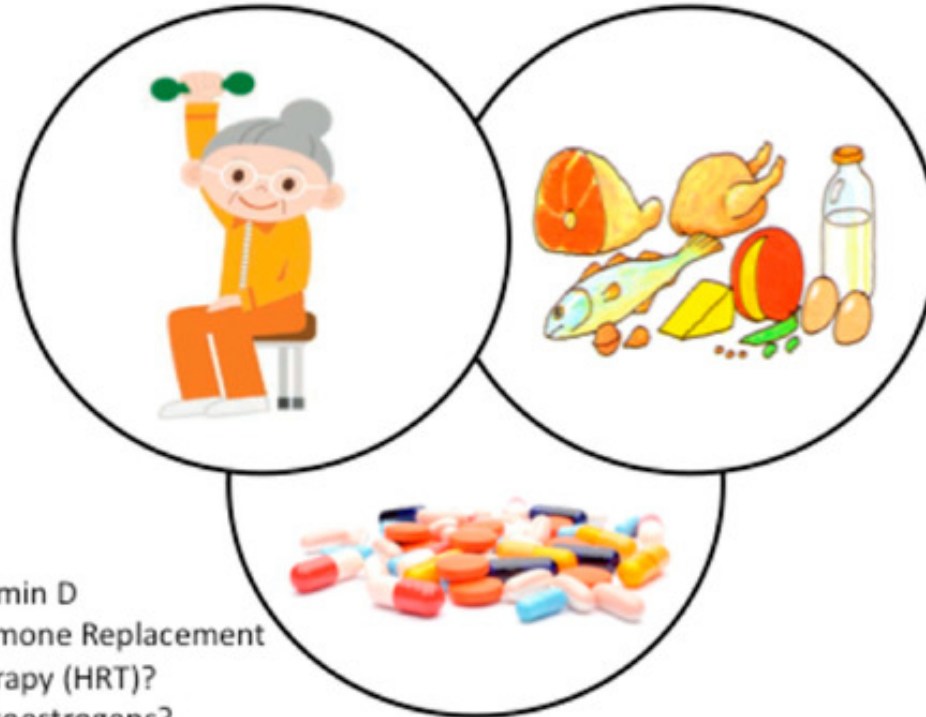
Therapy

EXERCISE

- Resistance training
- Sustained resistance training

HYPOCALORIC DIET

- Normal-to-high protein intake
(0.8 -1.2 g/kg/day)



DRUGS

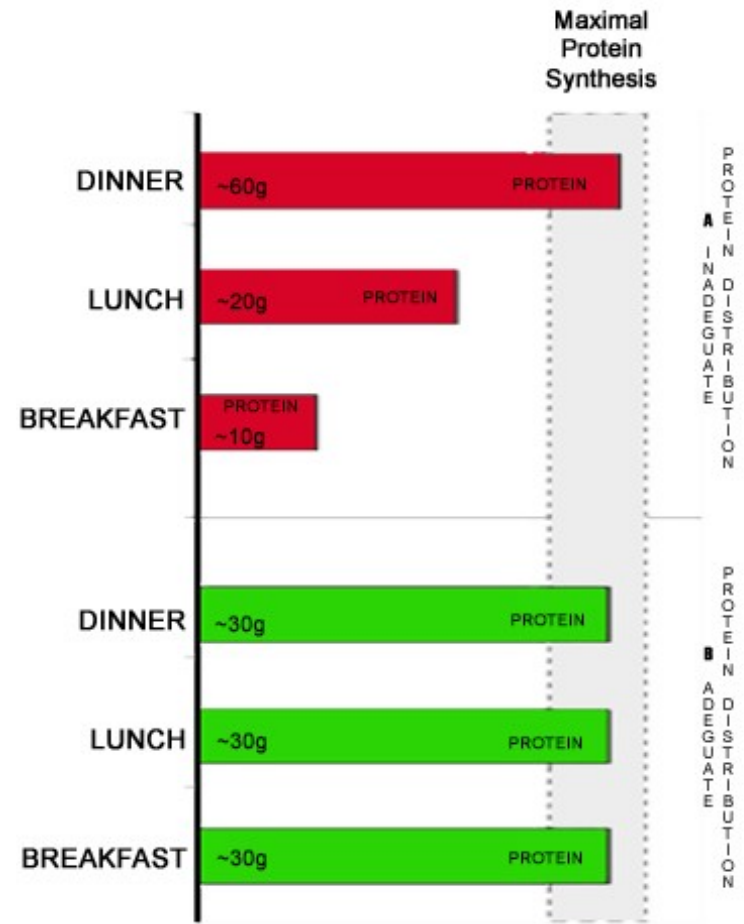
- Vitamin D
- Hormone Replacement Therapy (HRT)?
- Phytoestrogens?

Nutrition

Older people should take an average daily protein intake of 1-1.2 g/kg each day.

At least 30 grams of protein per meal to promote protein anabolism.

Protein consumption should be 50% from food of plant origin.

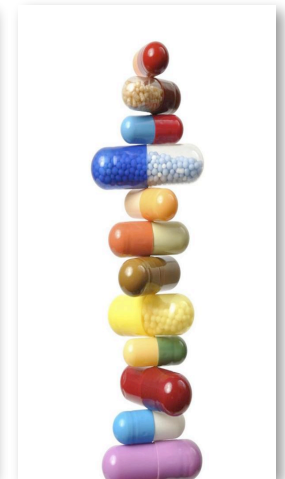


Paddon-Jones D, Rasmussen BB. Dietary protein recommendations and the prevention of sarcopenia. *Curr Opin Clin Nutri Metab* 2009; 12: 86-90.

Supplementation

To date, pharmacological and hormonal therapy have NOT yet been considered fully effective in the treatment of sarcopenia.

BCAAs
LEUCINE
VIT. D
 β -HMB
CREATINE



CONCLUSIONS

Sarcopenic Obesity can be prevented and treated by adopting a healthy lifestyle.

The ideal approach is based on the targeted intervention to both slow down the course of sarcopenia and promotes a decrease in adipose mass.

In the case of malnutrition, a supplementation with BCAA-based supplements, leucine, vitamin D, and β -HMB might help to improve and reduce the effects of sarcopenia.

General public health prevention strategies, while developing specific food education programs, interventions, and regular exercise practice should be improved



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if you have any questions please do not hesitate to
contact me at mauro.lombardo@uniroma5.it

Reference: Lombardo M, Boaria A, Aulisa G, Padua E, Annino G, Pratesi A, Caprio M, Iellamo F, Bellia A. Sarcopenic obesity: etiology and lifestyle therapy. Eur Rev Med Pharmacol Sci. 2019 Aug;23(16):7152-7162. doi: 10.26355/eurrev_201908_18761. PMID: 31486518.

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