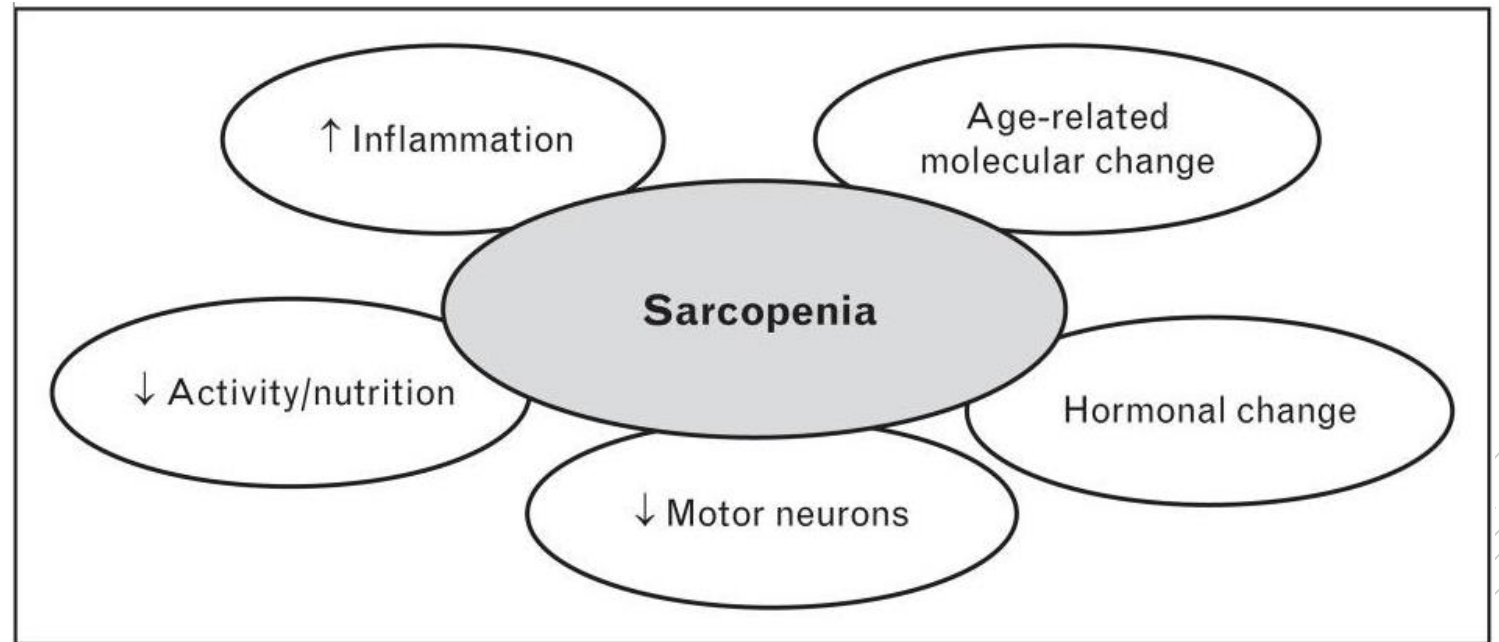


Staying strong by fighting loss of muscle

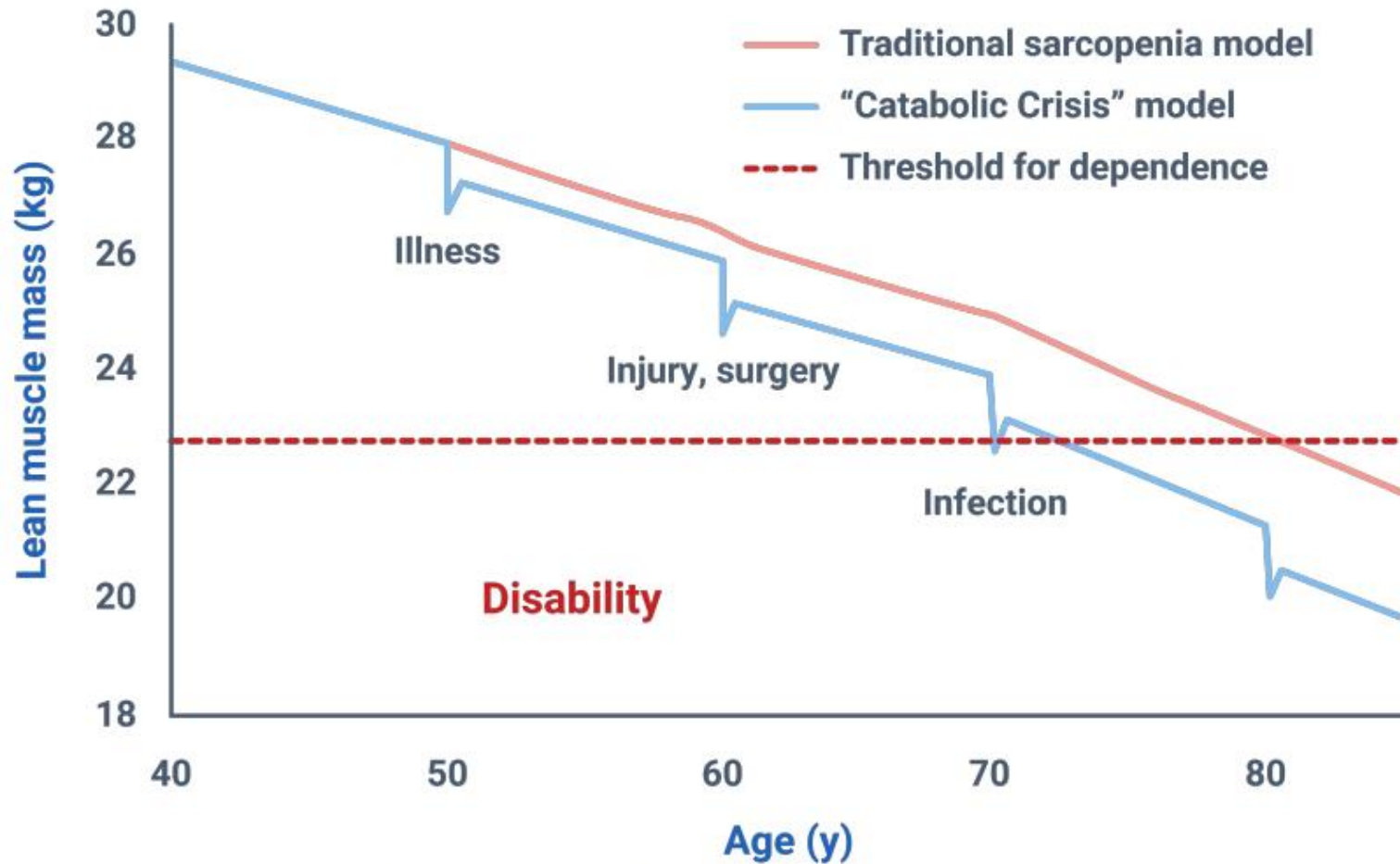
Stuart Utley, PT, DPT, OCS

Muscle mass loss with aging is multifactorial and “predictable”

- Muscle mass loss is observed at a predictable rate after the age of 40
 - 3-8% every decade of life year after the age of 40
 - 50% of muscle lost by the 8th decade
 - Mobility deficits affect 20% of > 70 y.o. and 80% of > 90 y.o.

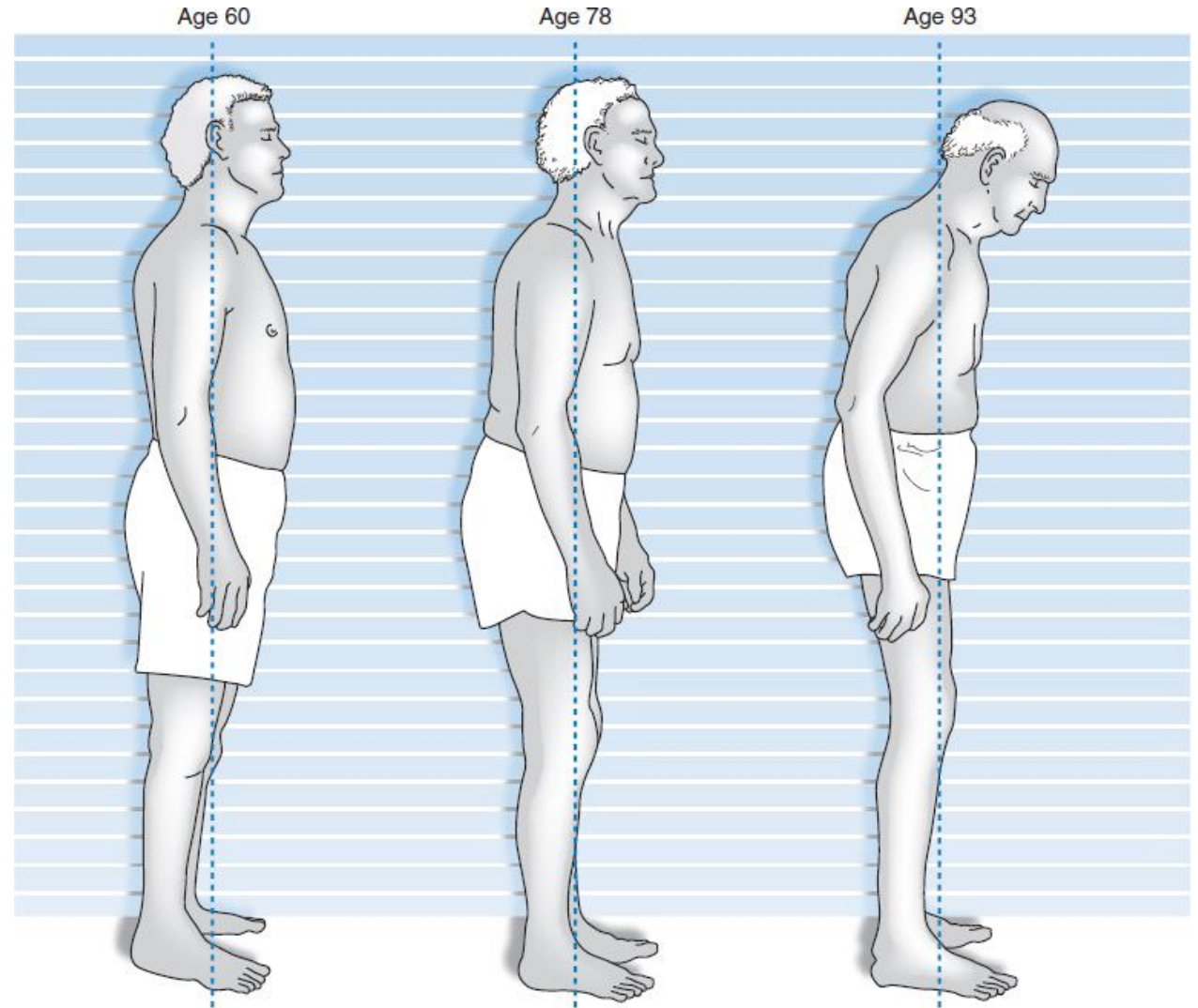


Catabolic “Hits” and Disability



Adapted from: English and Paddon-Jones. *Curr Opin Clin Nutr Metab Care*, 2010 Warburton DE et al *Can Med Assoc J* 174:801-9, 2006

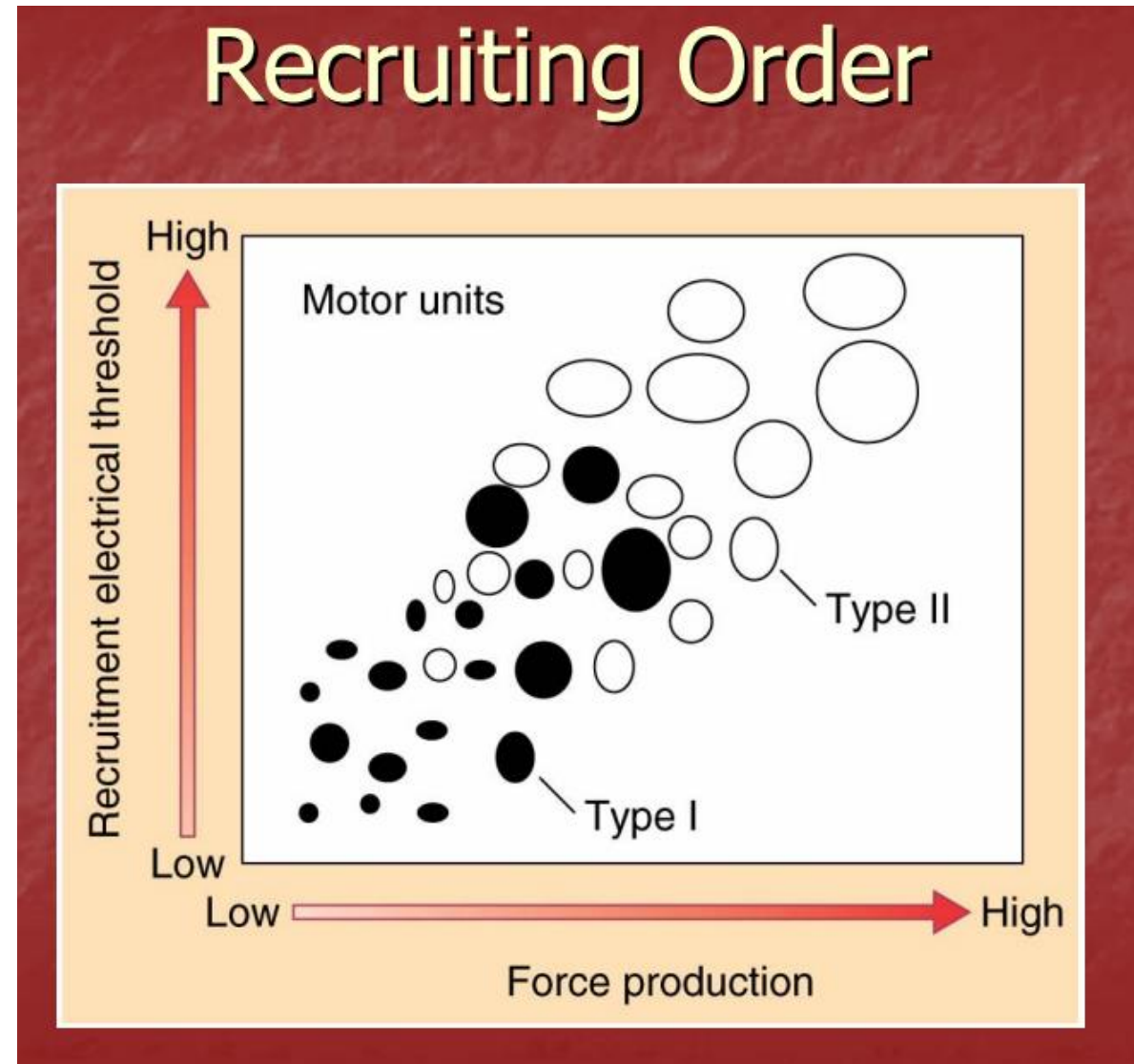
Postural changes as we age



Source: Bette Bonder, Vanina Dal Bello-Haas:
Functional Performance in Older Adults, Fourth Edition
Copyright © F. A. Davis Company. All rights reserved.

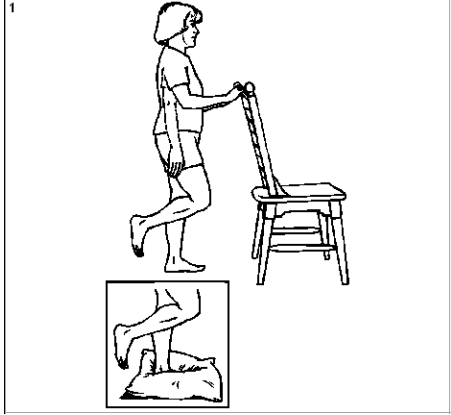
Must perform an activity to “fatigue”

How should
exercise feel?

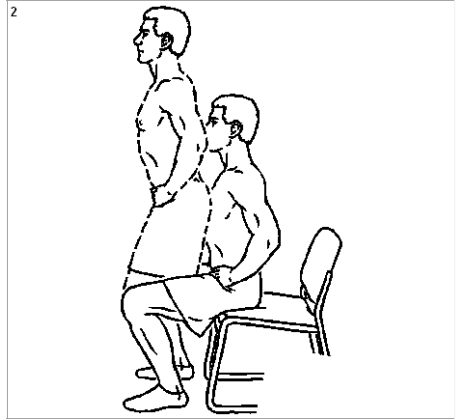


Exercise
Recommendations

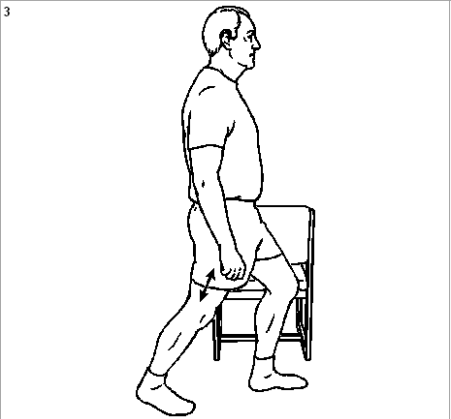
Single leg stance



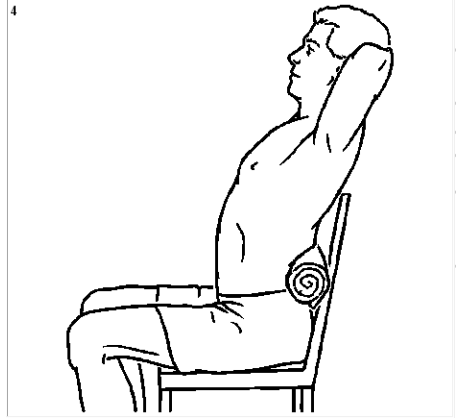
Sit to stands



Best stretch



Thoracic extension in chair



How often
should you
exercise?

**150 minutes/week of MODERATE
intensity cardiovascular exercise (30
min/day, 5 days/week)**

OR

**75 min of HIGH intensity cardiovascular
exercise (15 min/day, 5 days/week)**

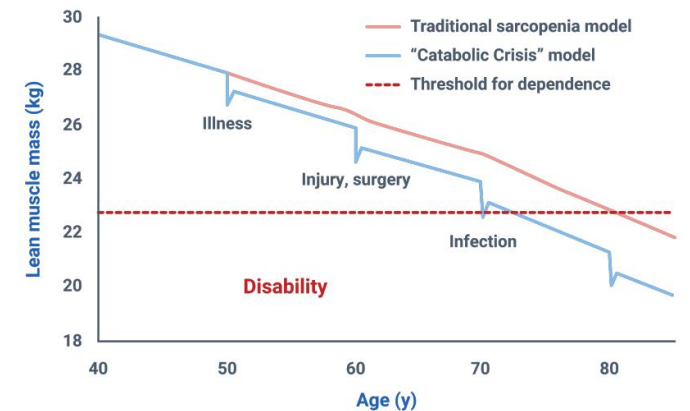
Stretching 2-3 days/week

Strength training 2-3 days/week

Summary

- Muscle mass loss as we age is multifactorial. While it's predictable, it can be mitigated. Flatten the line!
- Exercise consistently to “fatigue” to see gains, or at least, maintain strength

Catabolic “Hits” and Disability



References

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2. Walston J.D. *Sarcopenia in older adults*. Curr. Opin. Rheumatol. 2012;24:623–627. doi: 10.1097/BOR.0b013e328358d59b
3. Dal Bello-Haas, V; MacIntyre, N; Seng-lad, S. *Functional performance in older adults*. Chapter 11. F. A. Davis Company, 1994
4. American College of Sports Medicine. *ACSM's Guidelines for Exercise Testing and Prescription*. Philadelphia :Lippincott Williams & Wilkins, 2000.
5. "Staff" presentation at University of Massachusetts at Lowell. '*Neuromuscular Adaptations to Neuromuscular Adaptations to Training*'. [PowerPoint presentation]. Available at: <https://www.uml.edu/campusrecreation/staff/EP%20II%20Materials/Neuromuscular%20Adaptations%20to%20Training.pdf>. (Accessed 15 April 2020)