Berner Fachhochschule
Haute école spécialisée bernoise
Bern University of Applied Sciences

Innovative training program for elderly in long-term care

Euro Health Care and Fitness Summit

Rogan S

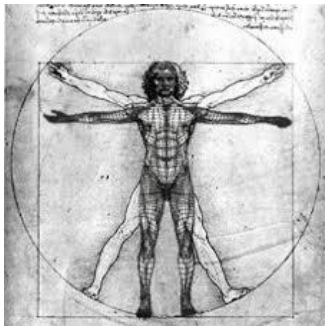
What do we know?

Countries with the highest shares of 60+ population – among countries with population of 1 million and more (Krtelj & Schulte European Commission, 2011)

2011	%	2050	%
Japan	31	Japan	42
Italy	27	Portugal	40
Germany	26	Bosnia & Herzegovina	40
Finland	25	Cuba	39
Sweden	25	Republic of Korea	39
Bulgaria	25	Italy	38
Greece	25	Spain	38
Portugal	24	Singapore	38
Belgium	24	Germany	38
Croatia	24	Switzerland	37

Why is this important to know

Demographic change







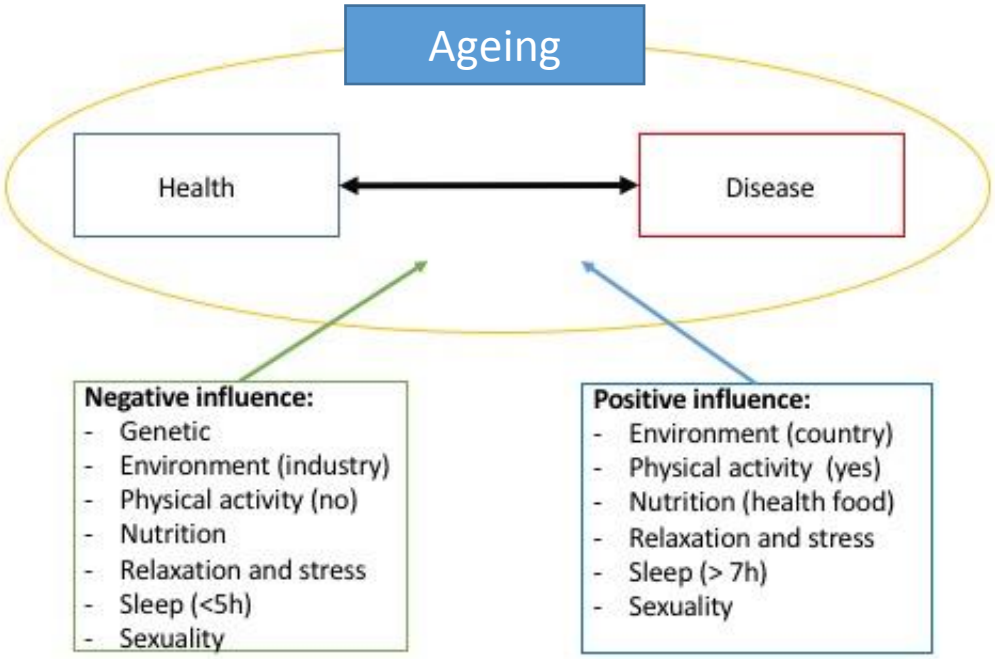


Terminology: to establish order

- LTC is not a disease but a state of dependency/function
- Distinguish between Health/Disease and Ageing

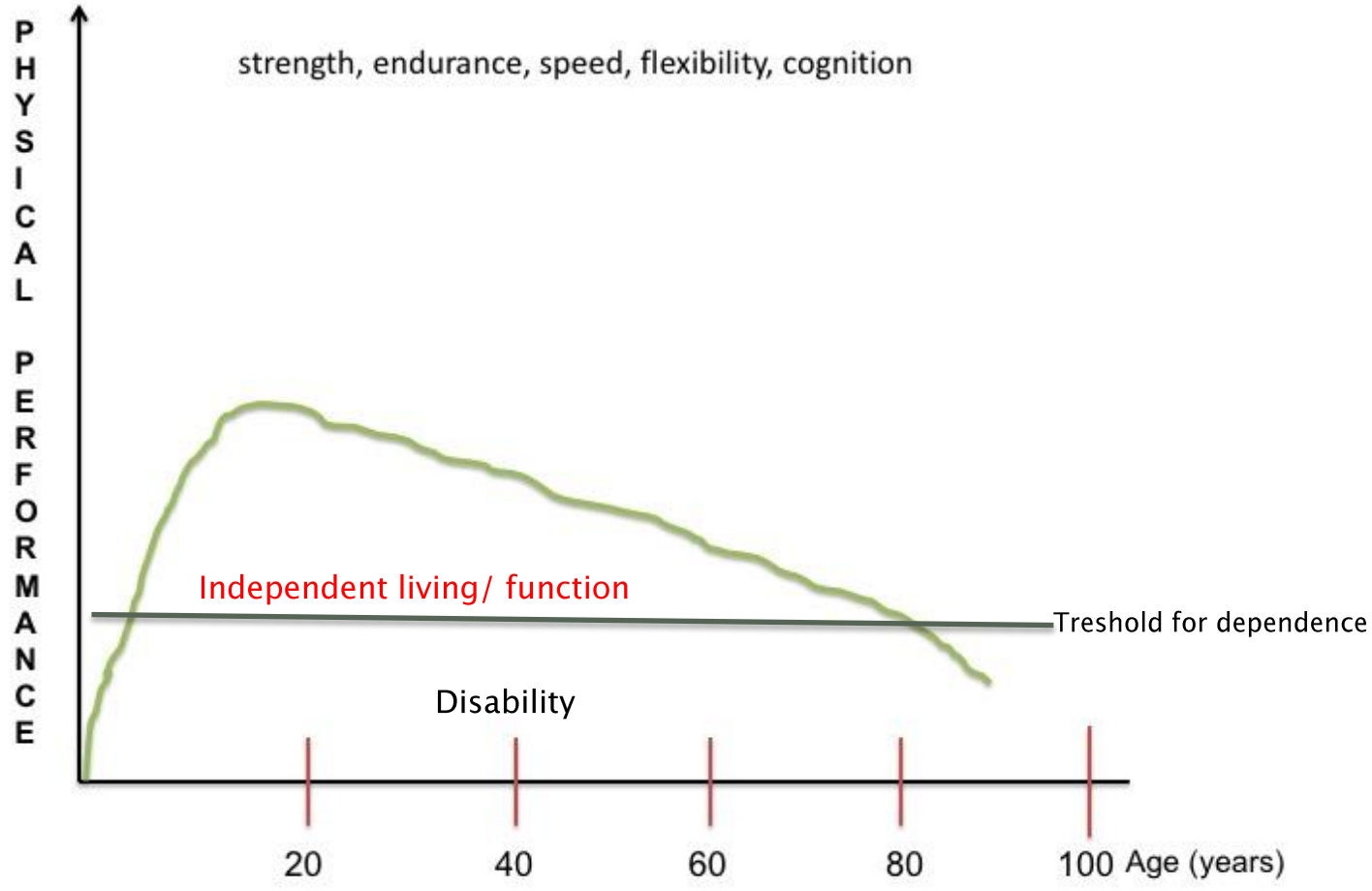
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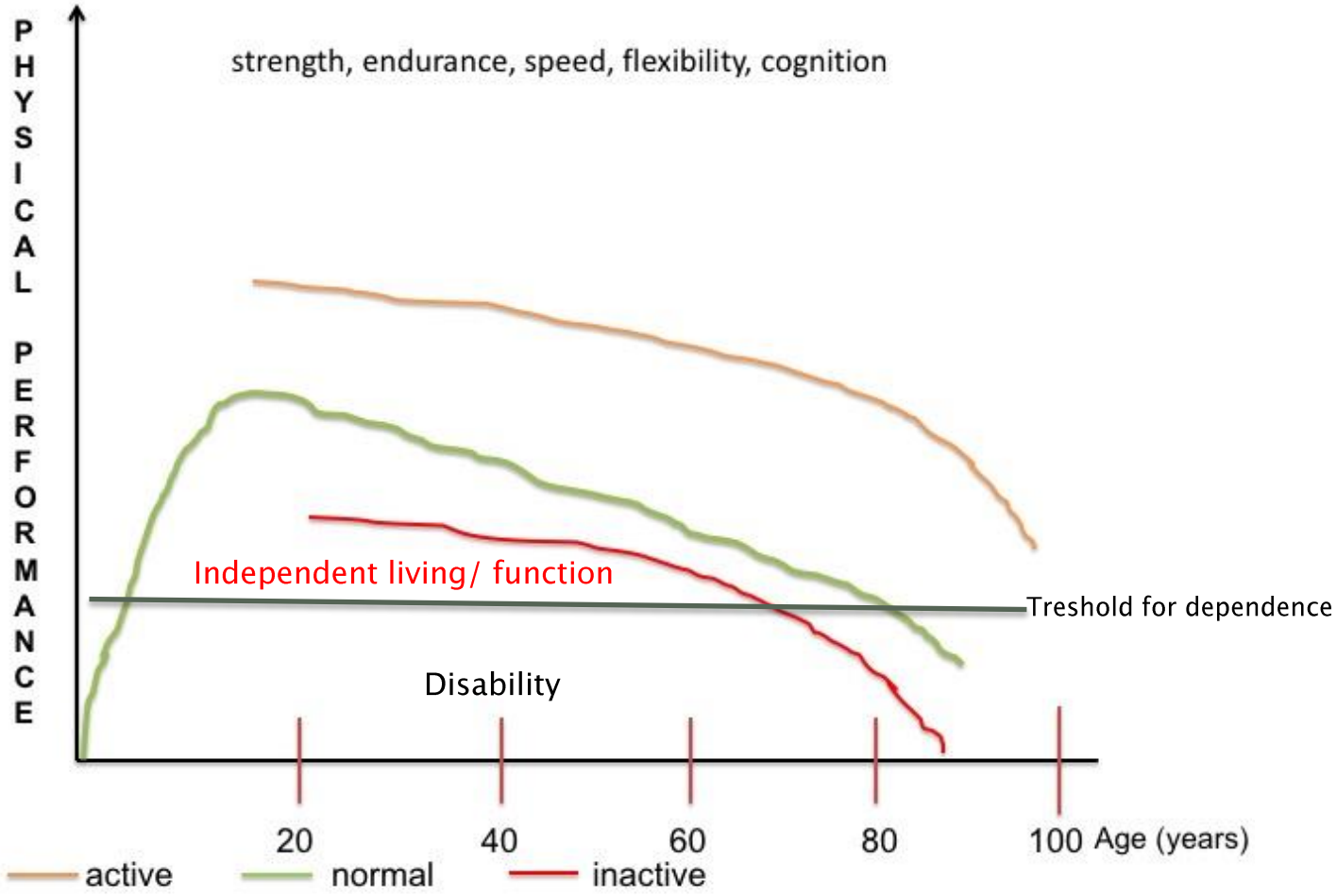
Own compilation

Ageing is ....



Own compilation

Physical activity ….



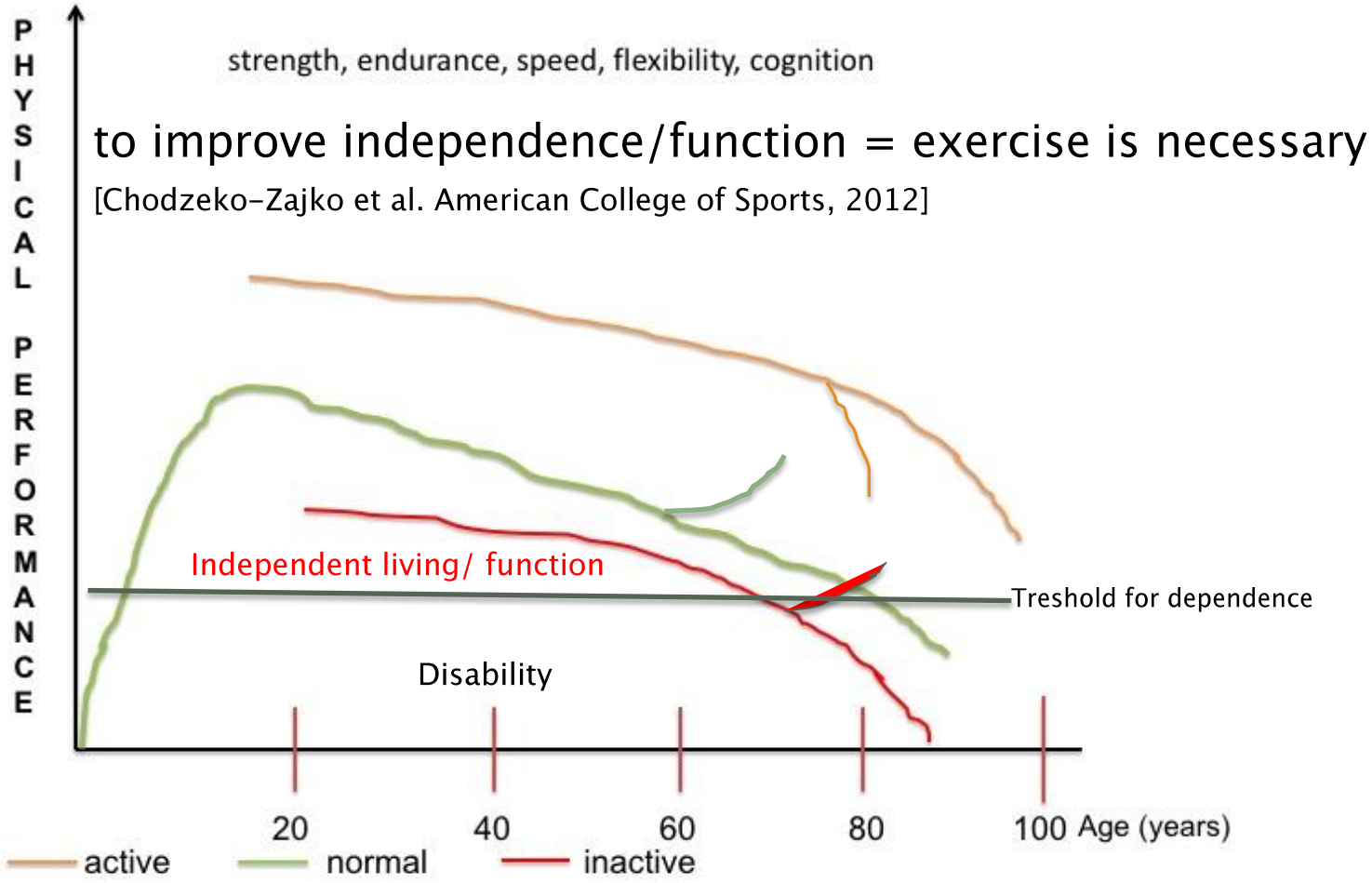
Own compilation

What can be concluded?

Aim: maintain health and preserve independence to gain positive ageing

- Independence represents functions such as walking in room/city, chair rise, stair walking, etc.
- Think in terms of independency/function and not in disease

Physical activity….



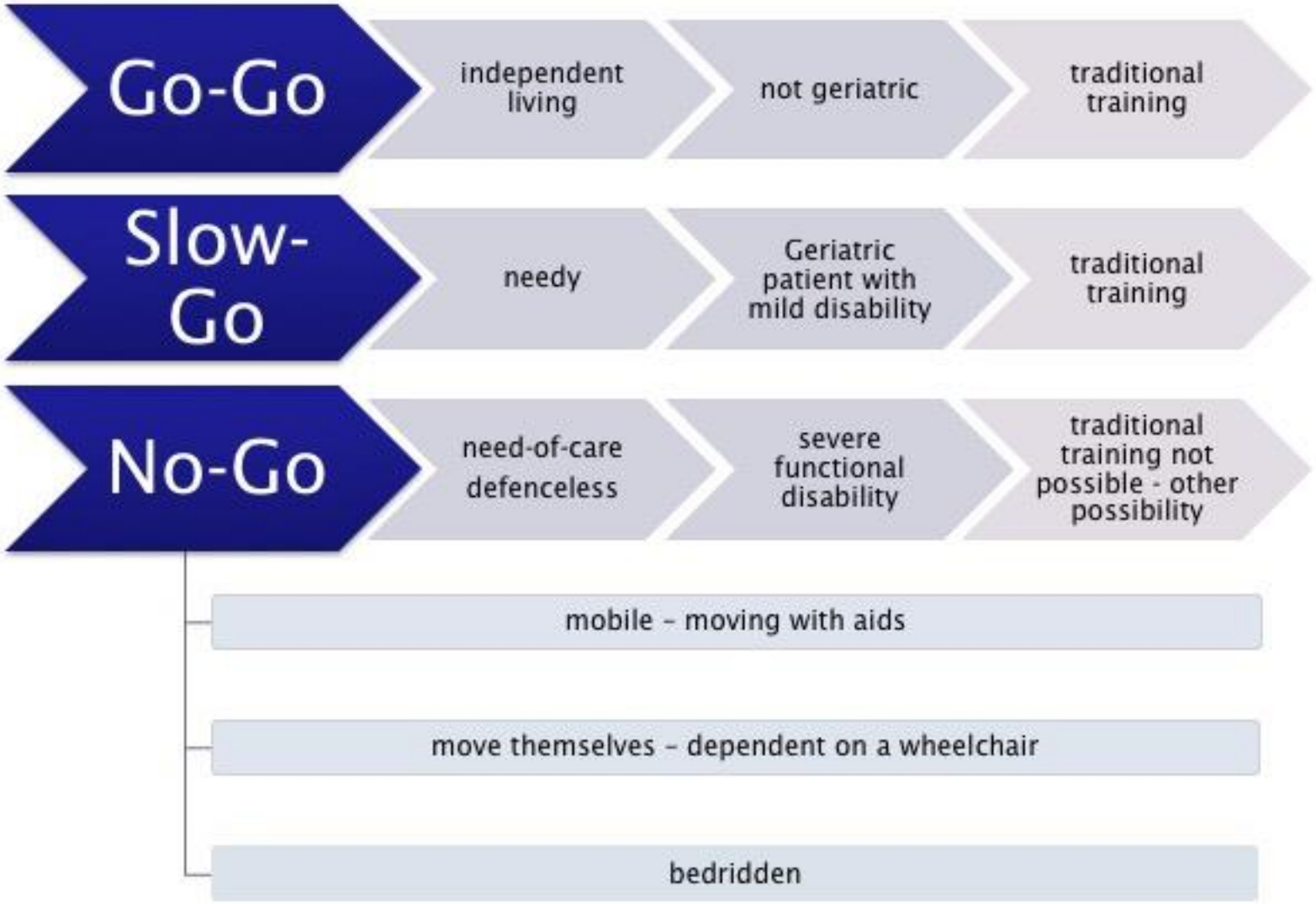
Own compilation

Training with LTC elderly

- Classify the function: Go-Goes, Slow-Goes, No-Goes
- No-Goes: measures current physical performance status
- Innovative Training program: Skilling-up

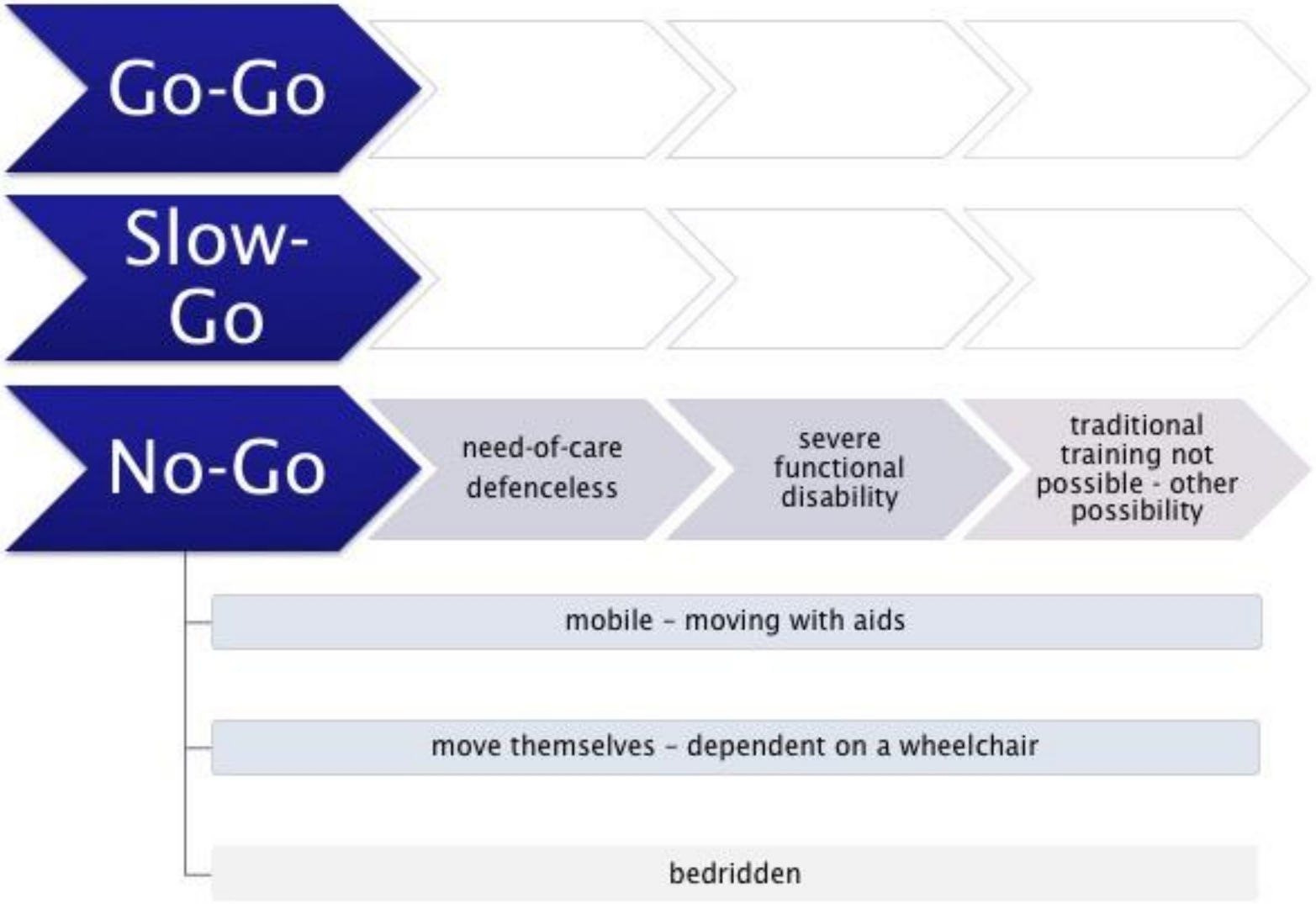
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Training with LTC elderly



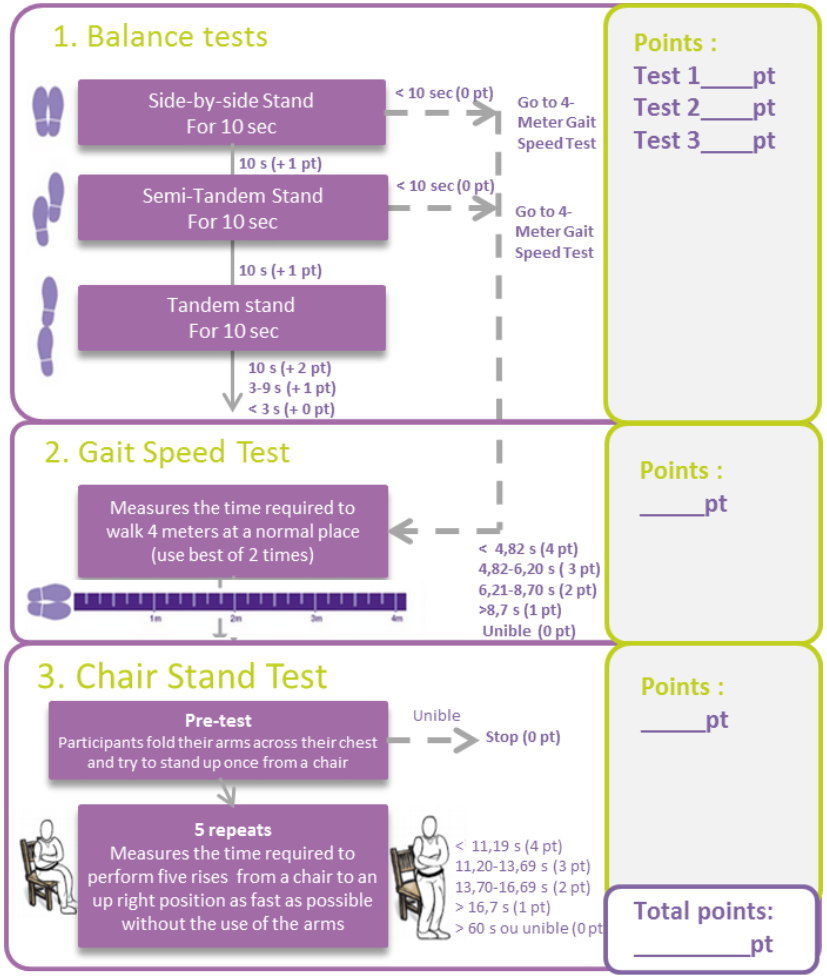
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Training with LTC elderly



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SPPB



- SPPB 0–6 : Poor performance
- SPPB 7–10 : Intermediate performance
- SPPB 11–12 : High Performance

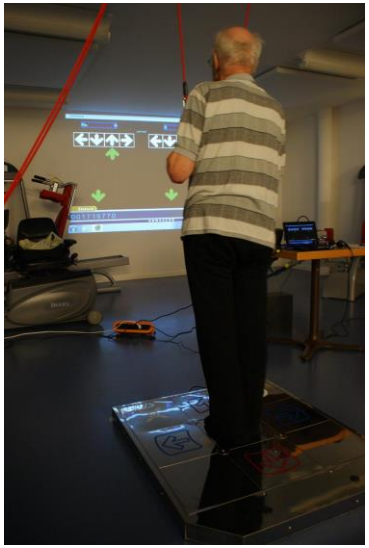
[Guralnik et al. J. Gerontol. A Biol. Sci. Med. Sci., 2000]

≤8 risk indicator of sarcopenia

Innovative training program

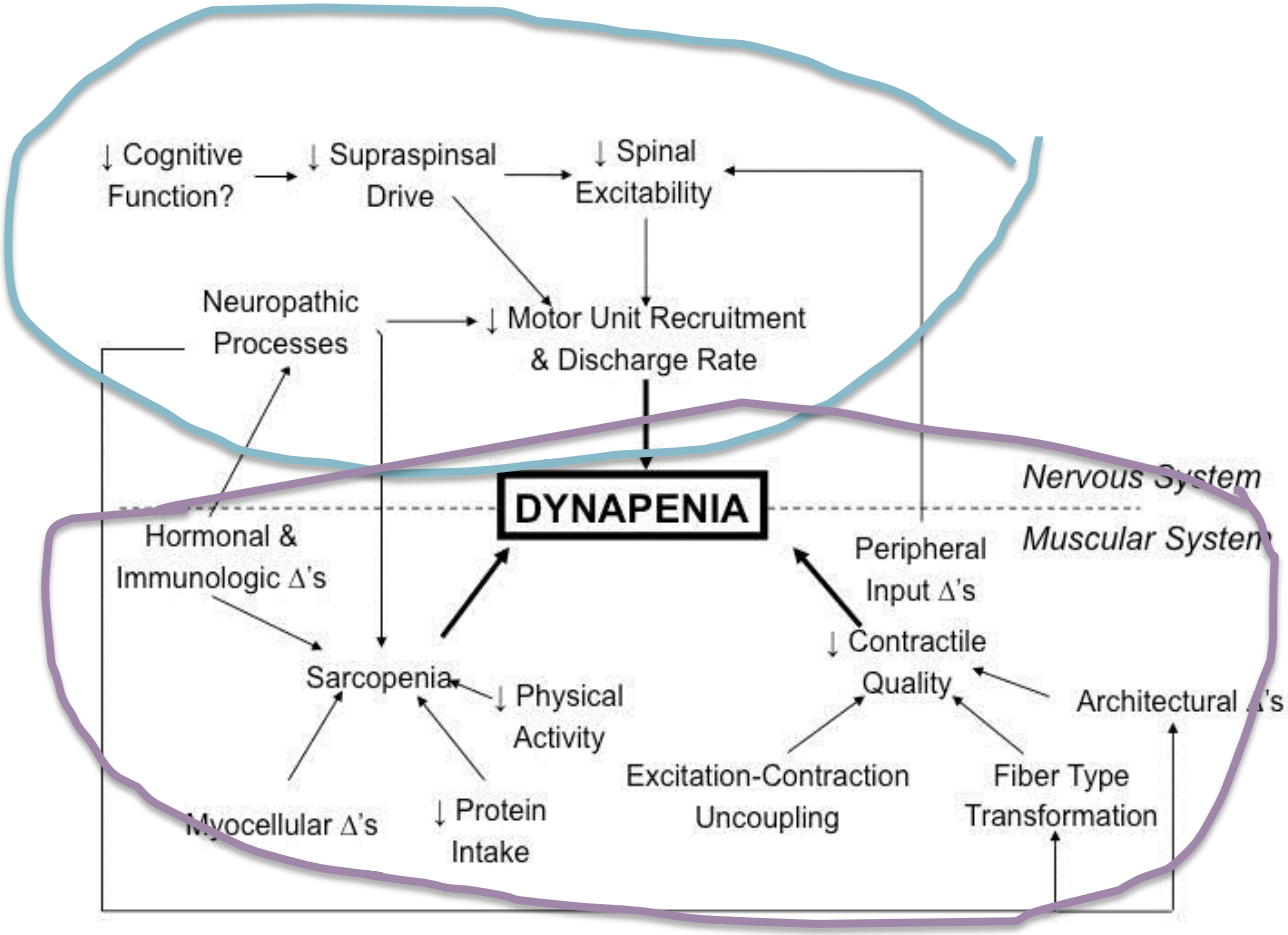
- Whole-Body vibration
- Exergames





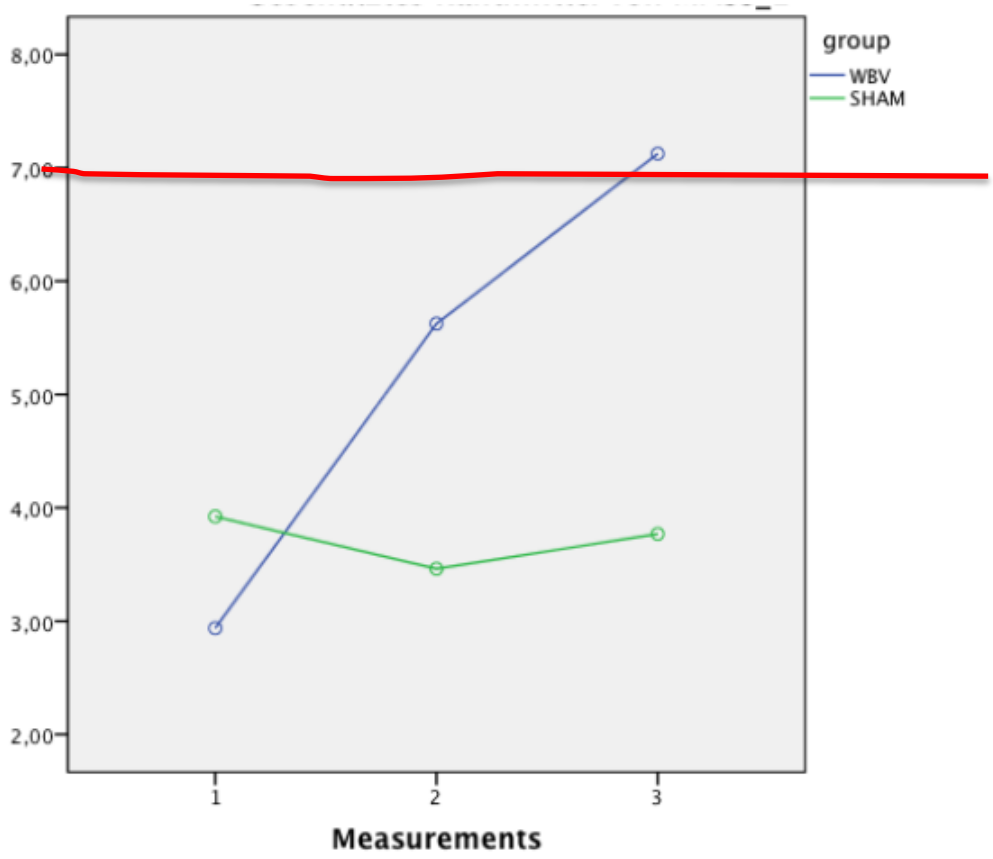
Dynapenia

- New approach: focus on muscle and nervous system [Clark and Manini Gerontol A Biol Sci Med Sci, 2008; J Gerontol A Biol Sci Med Sci, 2012]



Study results

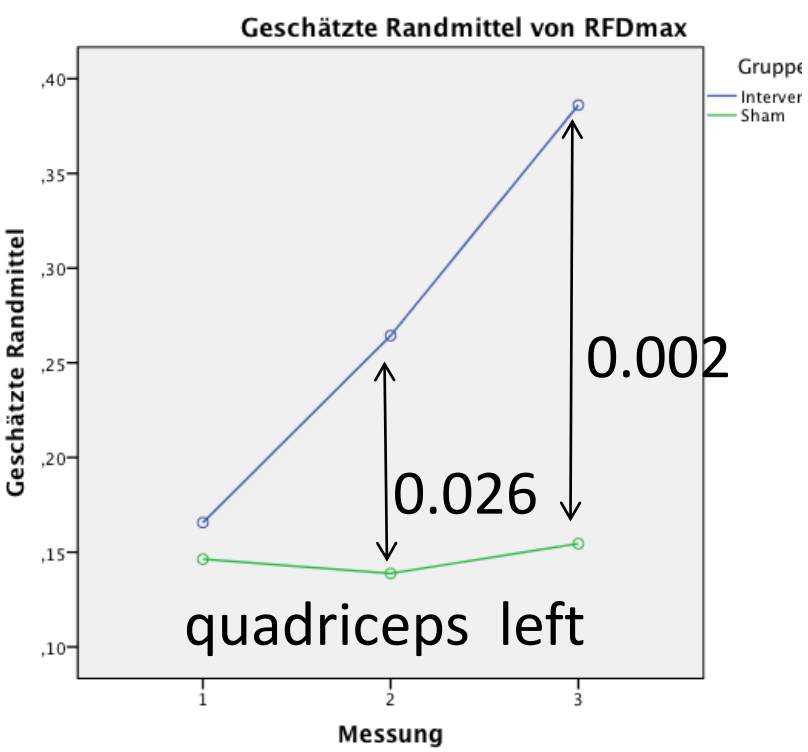
- Short Physical Performance Battery Test [Rogan & de Bruin ECSS Congress Barcelona, 2013]

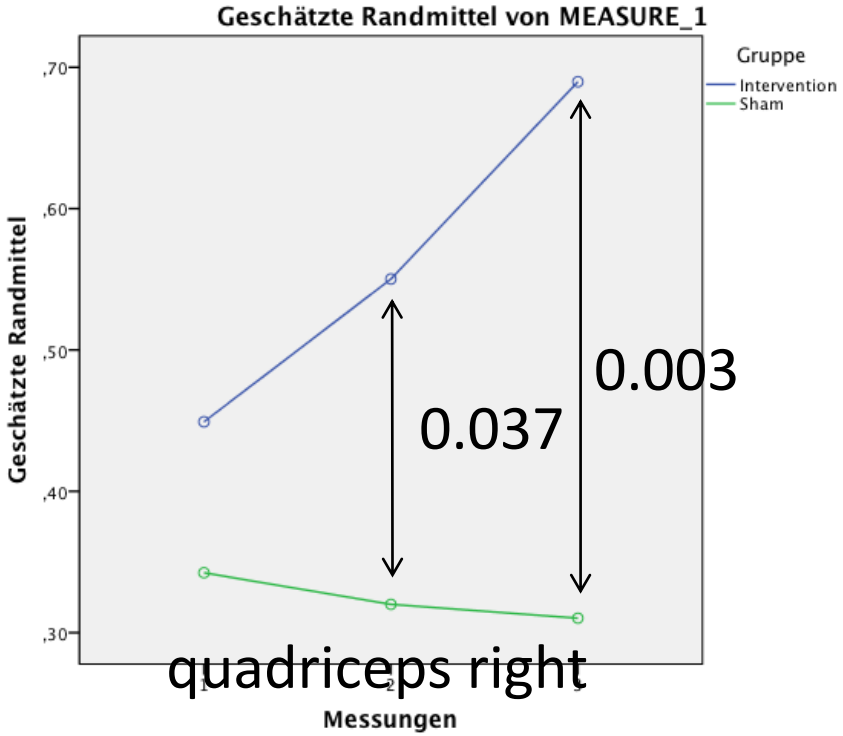


Study results

- Rate of force development [Rogan et al., 2015]



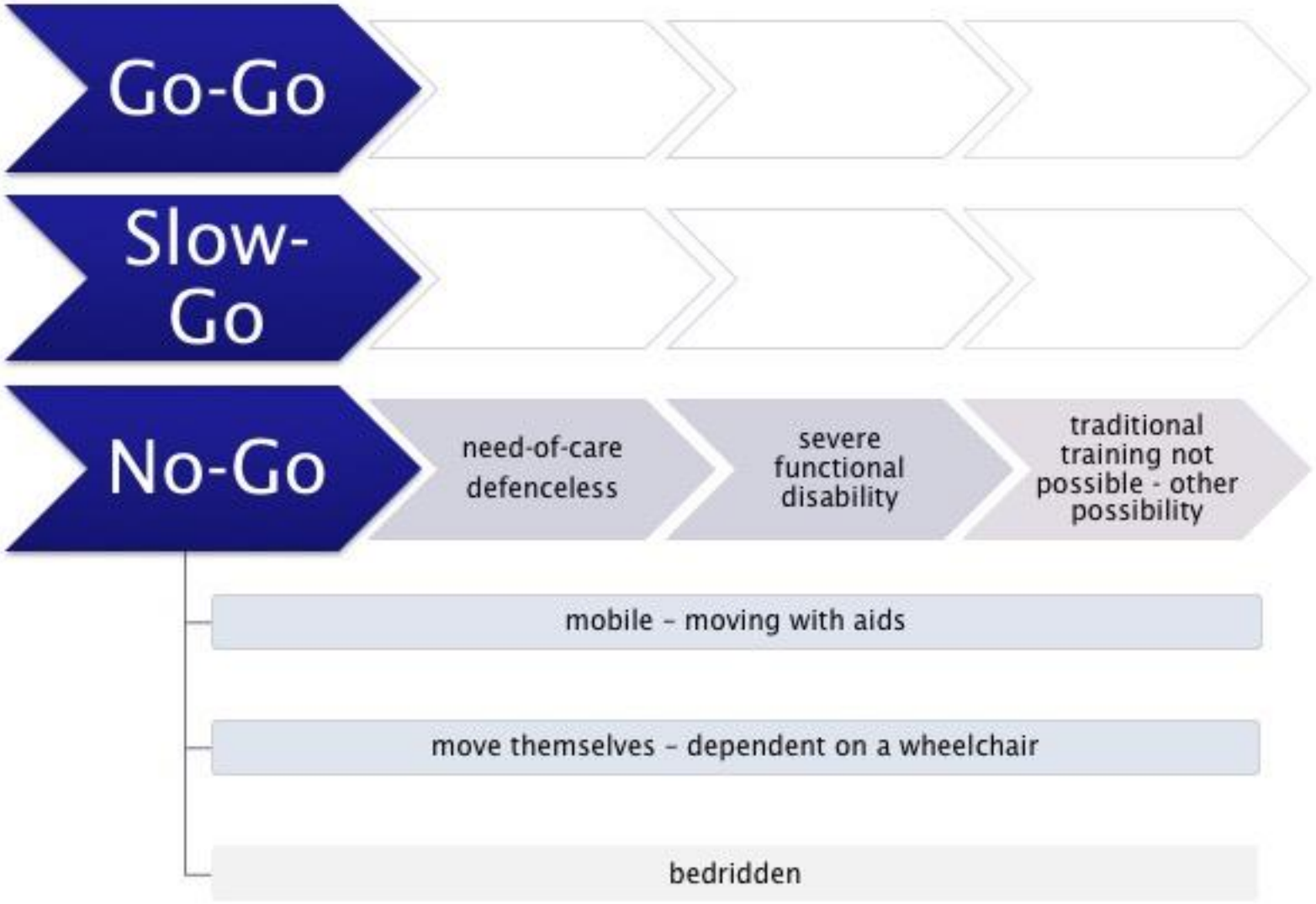




Recommendations: LTC elderly

- Classify the function: Go-Goes, Slow-Goes, No-Goes
- Measures current physical performance status
- Innovative Training program:
  - Whole-body vibration: 60s vibration and 60s rest a < 5 series
  - Whole-body-vibration: Frequency: 3 Hz up to 6 Hz (Noise 4 or 5)
  - Exergames: dance plate: start with 4 songs up to 10 song
  - Skilling up >3/week over > 8 weeks
  - Progressive training

Recommendations: LTC elderly



Own compilation

Thank you for your attention

