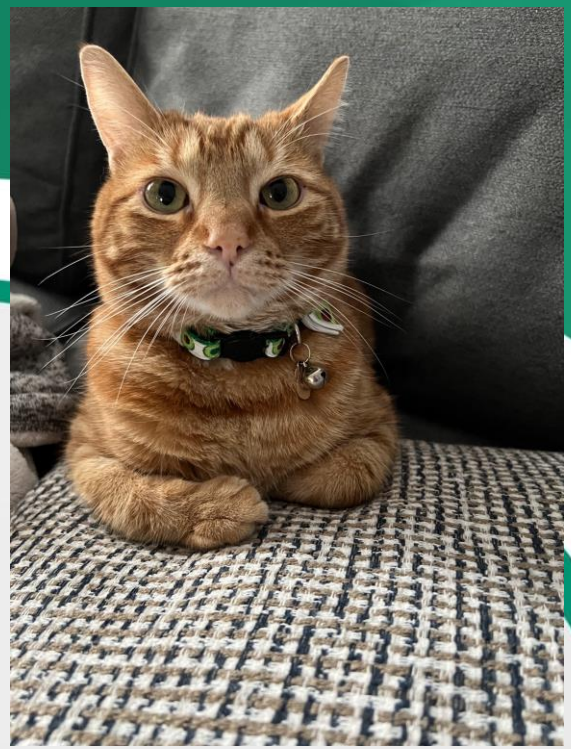
Maximizing Your Daily Living

Presenter:

Shane Gallagher

Gaylord Specialty Healthcare

Presenter



Shane Gallagher, PT, DPT

- Doctor of Physical Therapy, Sacred Heart University
- Physical Therapist – Gaylord PT Madison
- Joined Gaylord in 2018
- Personal Trainer for 6 years prior

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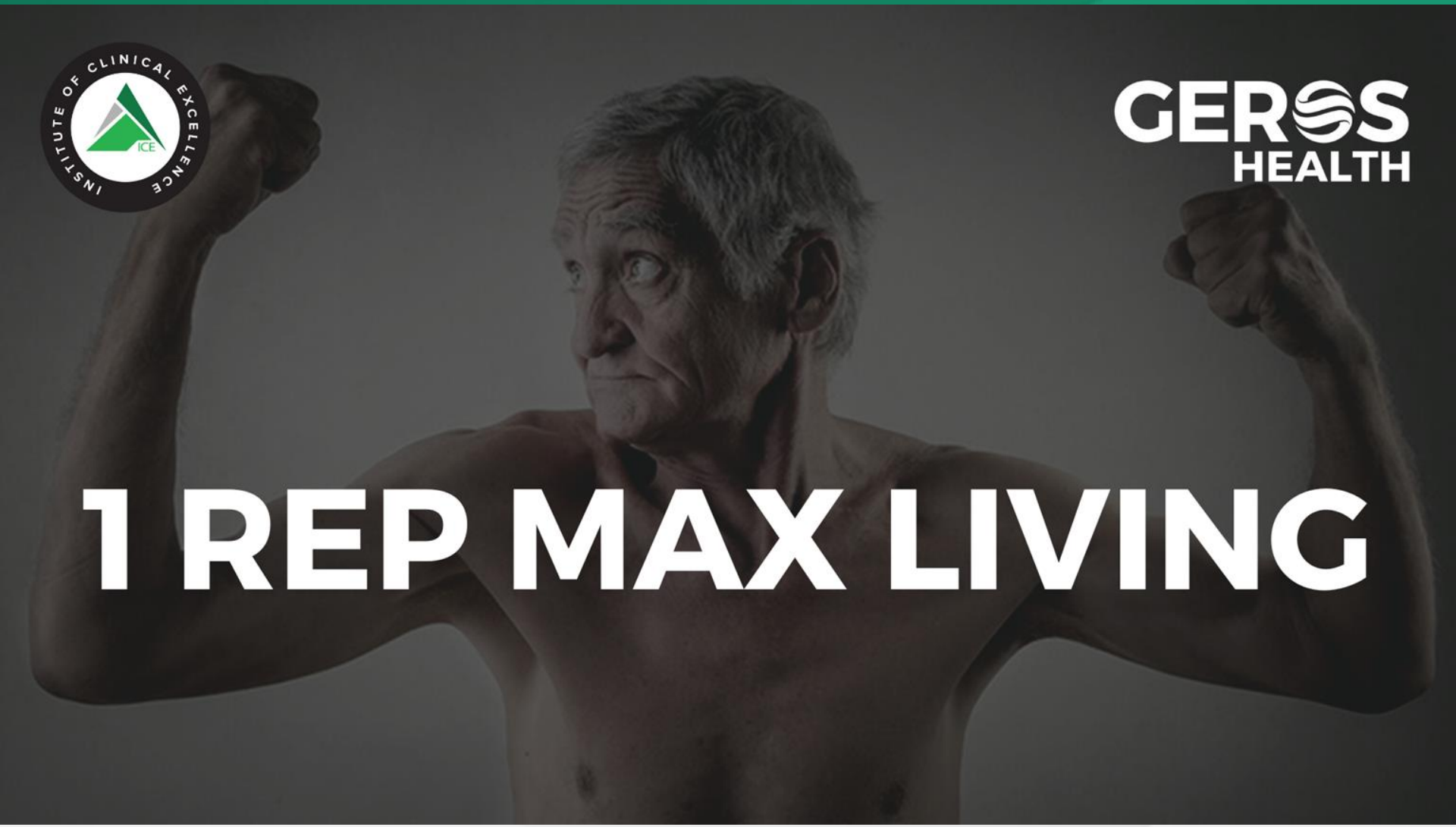

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What to expect...

1. What is “1 Rep Max Living”?
2. How can we Identify it?
3. What can we do about it?
4. Setting people up for success

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One-repetition maximum: is “the maximum amount of weight that a person can possibly lift for one repetition.”

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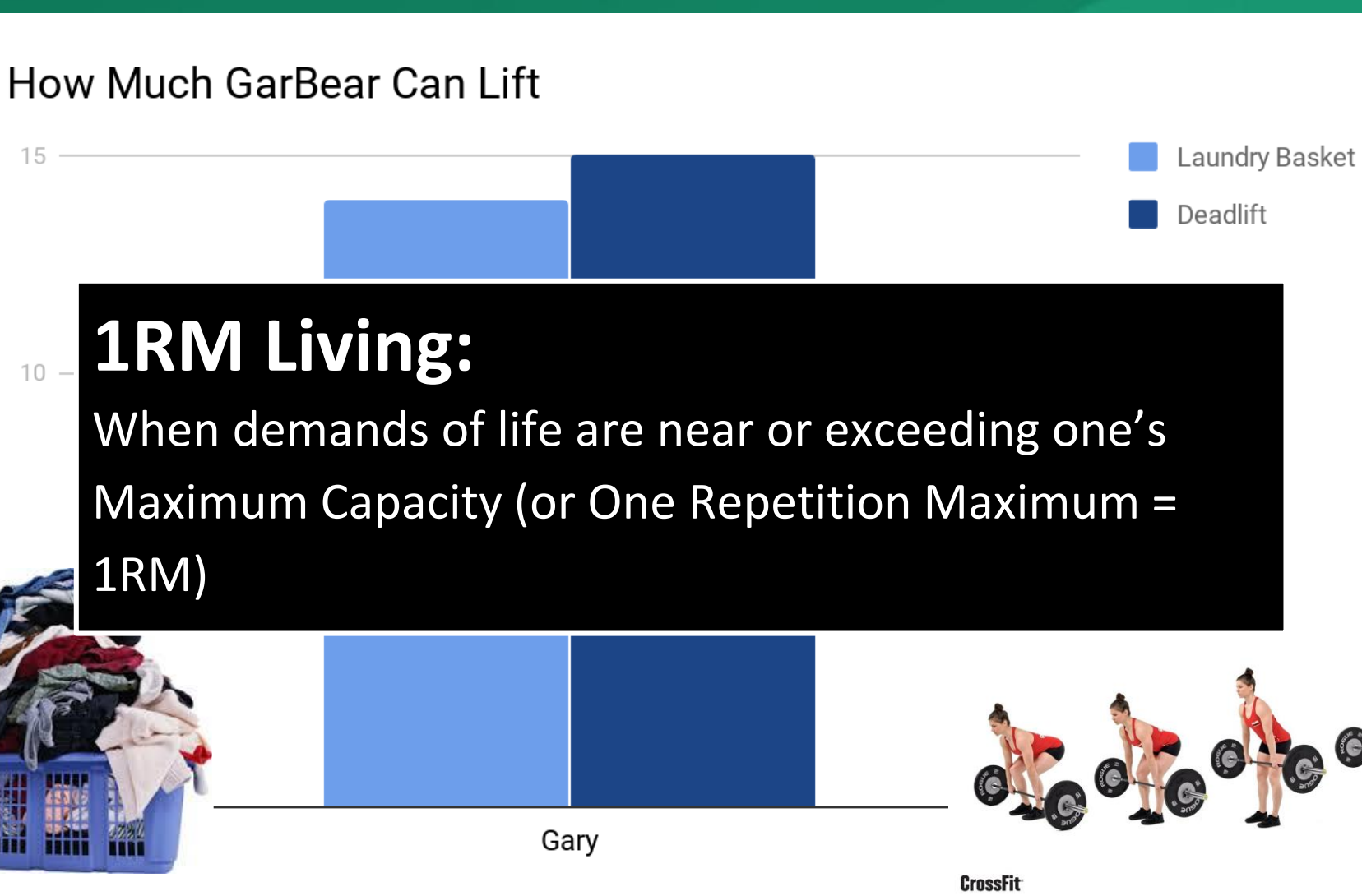


Journal of Gerontology: MEDICAL SCIENCES
2003, Vol. 58A, No. 5, 453–460

Old Adults Perform Activities of Daily Living Near Their Maximal Capabilities

Tibor Hortobágyi, Chris Mizelle, Stacey Beam, and Paul DeVita

Biomechanics Laboratory, East Carolina University, Greenville, North Carolina.

Background. Old adults' ability to execute activities of daily living (ADLs) declines with age. One possible reason for this decline is that the execution of customary motor tasks requires a substantially greater effort in old compared with young adults relative to their available maximal capacity.

Methods. We tested the hypothesis that the relative effort (i.e., the percentage of joint moment relative to maximal joint moment) to execute ADLs is higher in old adults compared with young adults. Healthy young adults (n = 13; mean age, 22 years) and old adults (n = 14; mean age, 74 years) ascended and descended stairs and rose from a chair and performed maximal-effort isometric supine leg press. Using inverse dynamics analysis, we determined knee joint moments in ADLs and computed relative effort.

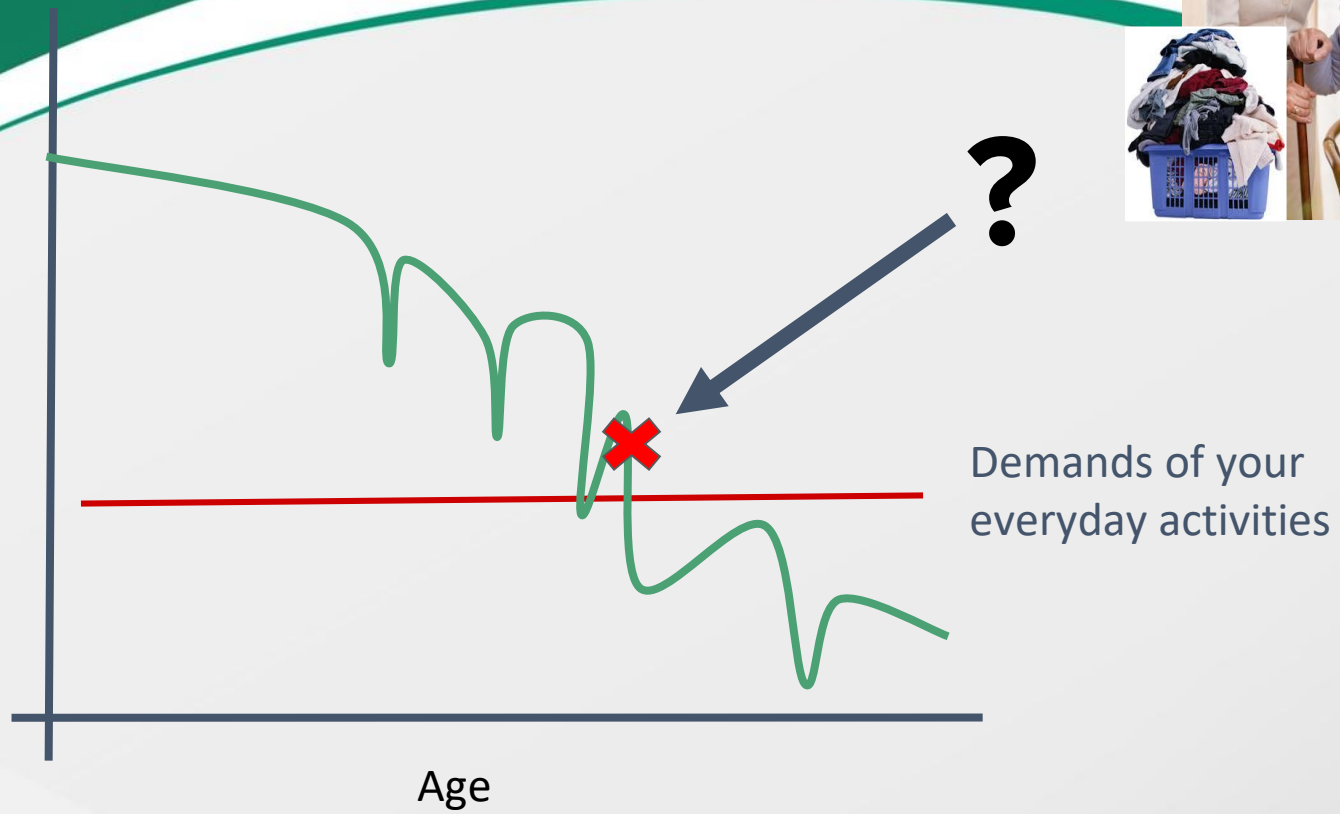
Results. Compared with young adults, old adults had 60% lower maximal leg press moments, 53% slower knee angular velocity at peak torque, and 27% lower knee joint moments in the ADLs (all $p < .05$). Relative effort in ascent was 54% (SD ± 16%) and 78% (±20%) in young and old adults, respectively; in descent, it was 42% (±20%) and 88% (±43%); and in chair rise, it was 42% (±19%) and 80% (±34%) (all $p < .05$). The relative electromyographic activity of the vastus lateralis and the coactivity of the biceps femoris associated with this relative effort were, respectively, 2- and 1.6-fold greater in old compared with young adults in the 3 ADLs ($p < .05$).

Conclusions. For healthy old adults, the difficulty that arises while performing ADLs may be due more to working at a higher level of effort relative to their maximum capability than to the absolute functional demands imposed by the task.

OLD adults' ability to execute activities of daily living (ADLs) declines with age (1–9). One possible reason

requirements, especially if combined with a need for rapid torque production, may reach or even exceed old adults'

The Physical Function Continuum



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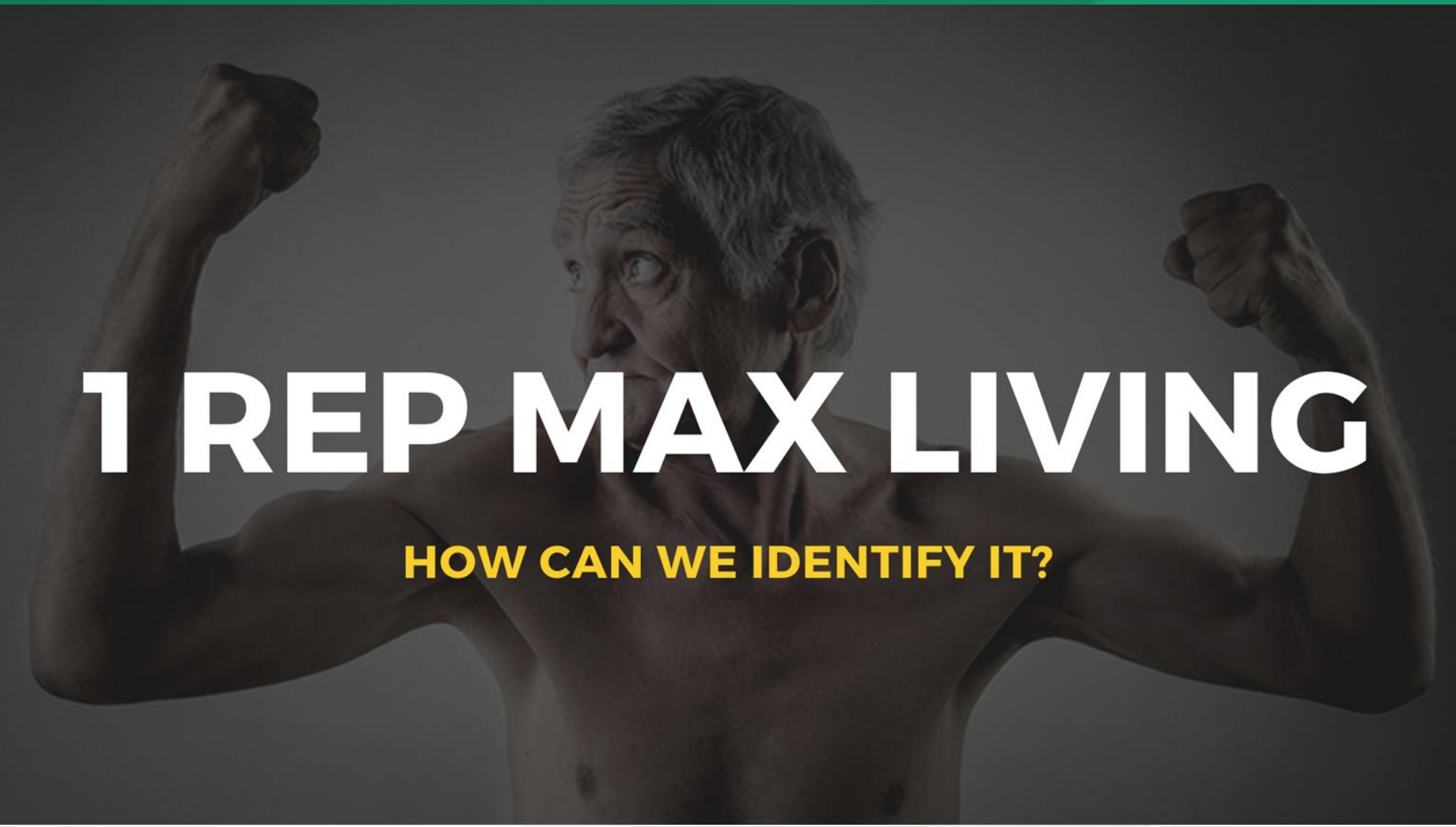

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The Physical Therapy Process

- Subjective
- Physical Examination
    i. Screening
- Explanation of Findings
- Trial Treatment
- Plan of Care Delivered

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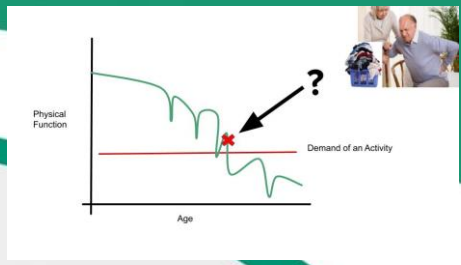
Self-Report Measures



Falls Efficacy Scale (FES)

- Measures Fear or Concern of Falling
- 16 Item Questionnaire

Activities-Specific Balance Confidence Scale (ABC)

- Similar to FES but expands to Daily Activities.
- Measures an individual's confidence in his/her ability to perform daily activities without falling.

Patient Specific Functional Scale (PSFS)

- Used to quantify activity limitation and measure functional outcome for patients. Patient Driven

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The Physical Therapy Process Cont.

- Subjective
- Physical Examination
    i. Screening
- Explanation of Findings
- Trial Treatment
- Plan of Care Delivered

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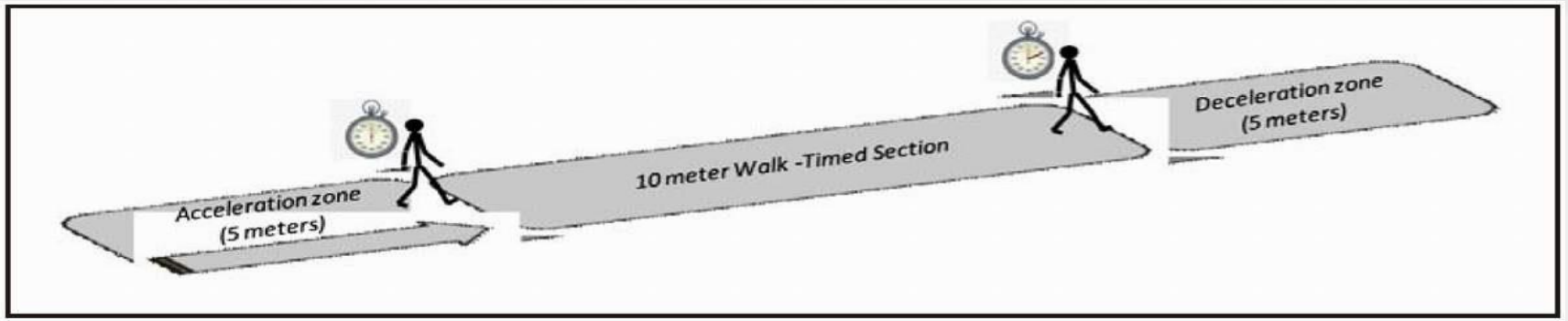
White Paper: “Walking Speed: the Sixth Vital Sign”

Fritz, Stacy PT, PhD[1]; Lusardi, Michelle PT, PhD[2] **Author Information**

Journal of Geriatric Physical Therapy: 2009 - Volume 32 - Issue 2 - p 2-5

Walking speed is “almost the perfect measure.”[1] A reliable, valid,[2,3] sensitive[4] and specific[5] measure, self-selected walking speed (WS), also termed gait velocity, **correlates with functional ability,[6] and balance confidence.[7] It has the potential to predict future health status,[8,9] and functional decline[10] including hospitalization**,[11] discharge location,[12,13] and mortality.[14] Walking speed reflects both **functional and physiological changes**,[6] is a discriminating factor in determining potential for rehabilitation,[15] and aids in **prediction of falls**[16] and fear of falling.[17] Furthermore, progression of WS has been linked to clinical meaningful changes in **quality of life**[18] and in **home and community walking behavio**r



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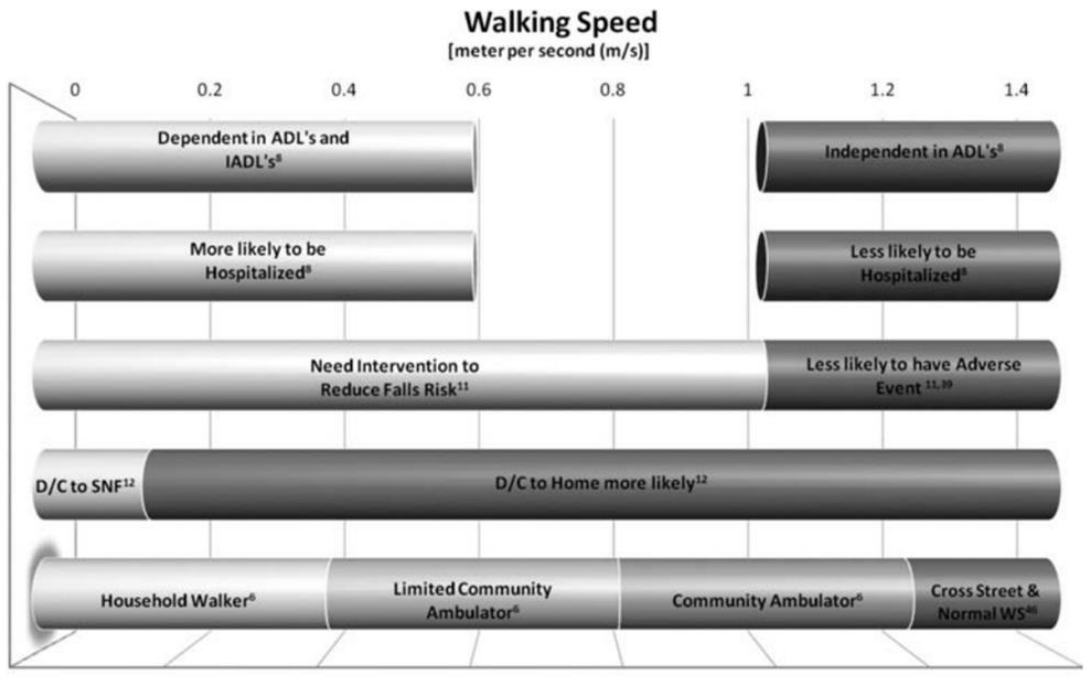
Movement Vitals
"6th Vital Sign" = Gait Speed



0 mph	0.4 mph	0.9 mph	1.3 mph	1.8 mph	2.2 mph	2.7 mph	3.1 mph
10 meter walk time	50 sec	25 sec	16.7 sec	12.5 sec	10 sec	8.3 sec	7.1 sec
10 foot walk time	15.2 sec	7.6 sec	5 sec	3.8 sec	3 sec	2.5 sec	2.2 sec

Fritz, Stacy, and Michelle Lusardi. "White paper: "walking speed: the sixth vital sign"." *Journal of geriatric physical therapy* 32.2 (2009): 2-5.

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Jones CJ, Rikli RE, Beam WC.
Res Q Exerc Sport. 1999 Jun;70(2):113-9.

Movement Vital Signs

30” Chair Stand Test

Who wants to race!?

Age	Number of stands Women	Number of stands Men
60-64	12-17	14-19
65-69	11-16	12-18
70-74	10-15	12-17
75-79	10-15	11-17
80-84	9-14	10-15
85-89	8-13	8-14
90-95	4-11	7-12

Criterion fitness standards to maintain physical independence

Age	60-64	65-69	70-74	75-79	80-84	85-89	90-94
Women	15	15	14	13	12	11	9
Men	17	16	15	14	13	11	9

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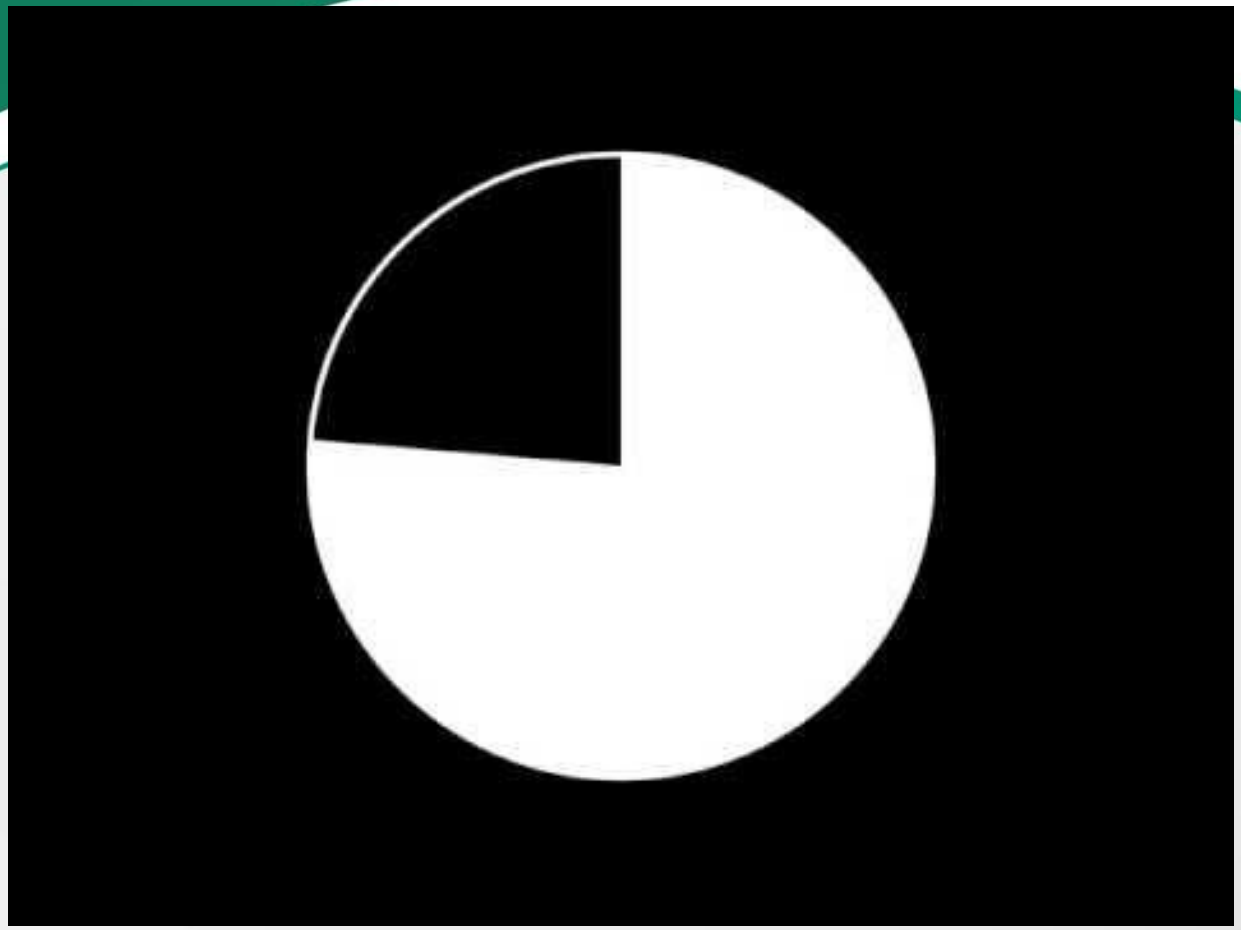

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frontiers in Physiology

MINI REVIEW
published: 06 June 2019
doi: 10.3389/fphys.2019.00645

Check for updates

Resistance Exercise Training as a Primary Countermeasure to Age-Related Chronic Disease

"On the basis of this review we propose that the promotion of RET should assume a more prominent position in exercise guidelines particularly for older persons."

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ears

to be as effective as AET in reducing risk of several chronic diseases. It may also be that RET

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Conclusion Weightlifting and MVPA were associated with a lower risk of all-cause and CVD mortality

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New search | Conclusions changed

Exercise for osteoarthritis of the hip

Marlene Fransen, Sara McConnell, Gabriela Hernandez-Molina, Stephan Reichenbach Authors' declarations of interest

Version published: 22 April 2014 Version history

https://doi.org/10.1002/14651858.CD007912.pub2

Authors' conclusions

Pooling the results of these 10 RCTs demonstrated that land-based therapeutic exercise programmes can reduce pain and improve physical function among people with symptomatic hip OA.

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Title Abstract

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New search

Exercise for osteoarthritis of the knee

Marlene Fransen, Sara McConnell, Alison R Harmer, Martin Van der Esch, Milena Simic, Kim L Bennell

Authors' declarations of interest

Version published: 09 January 2015 Version history

https://doi.org/10.1002/14651858.CD004376.pub3

Authors' conclusions

High-quality evidence indicates that land-based therapeutic exercise provides short-term benefit that is sustained for at least two to six months after cessation of formal treatment in terms of reduced knee pain, and moderate-quality evidence shows improvement in physical function among people with knee OA. The magnitude of the treatment effect would be considered moderate (immediate) to small (two to six months) but comparable with estimates reported for non-steroidal anti-inflammatory drugs. Confidence intervals around demonstrated pooled results for pain reduction and improvement in physical function do not

Conclusions The results suggest no difference between exercise and pharmacological interventions in reducing depressive symptoms in adults with non-severe depression. These findings support the adoption of exercise as an alternative or adjuvant treatment for non-severe depression in adults.

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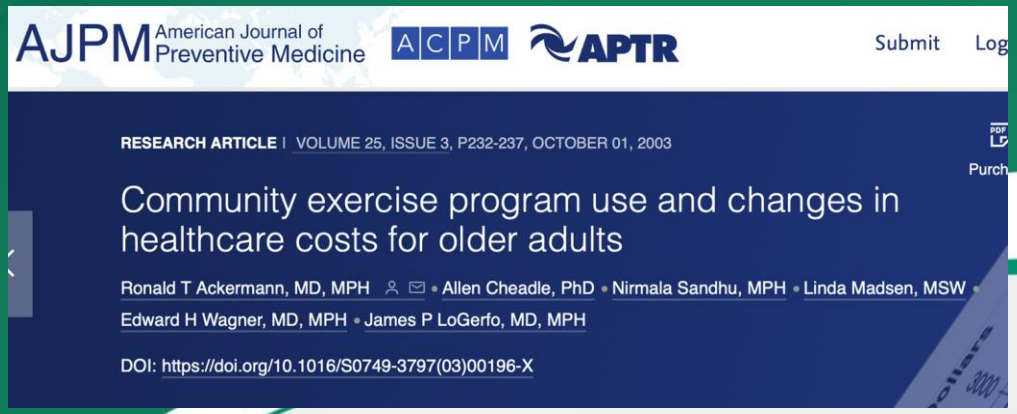

AJPM American Journal of Preventive Medicine ACPM APTR Submit Log

RESEARCH ARTICLE | VOLUME 25, ISSUE 3, P232-237, OCTOBER 01, 2003

Purch

Community exercise program use and changes in healthcare costs for older adults

Ronald T Ackermann, MD, MPH • Allen Cheadle, PhD • Nirmala Sandhu, MPH • Linda Madsen, MSW • Edward H Wagner, MD, MPH • James P LoGerfo, MD, MPH

DOI: https://doi.org/10.1016/S0749-3797(03)00196-X

People who participated in Enhance Fitness at least once per week had significantly fewer hospitalizations (7.9% fewer), and lower health care costs (by $1,057) than non-participants, according to one analysis of Medicare enrollees.

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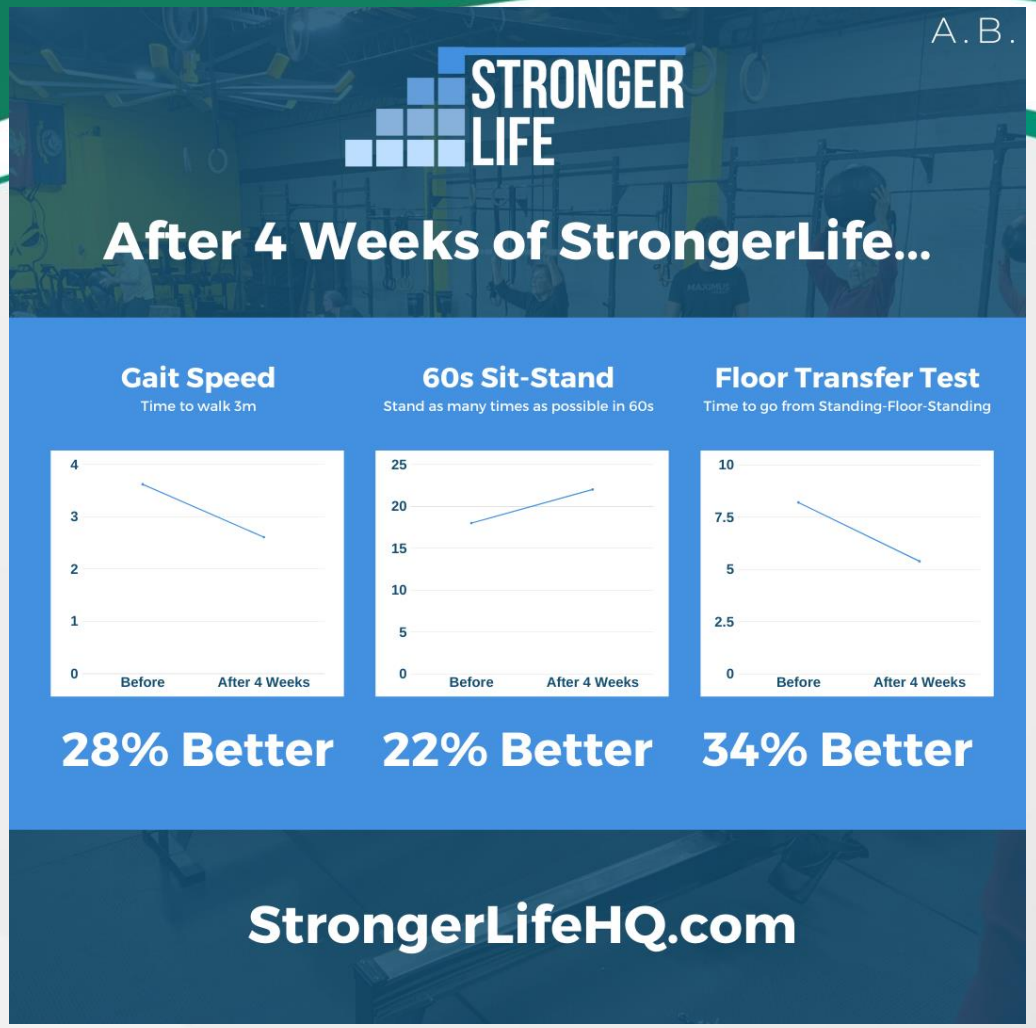

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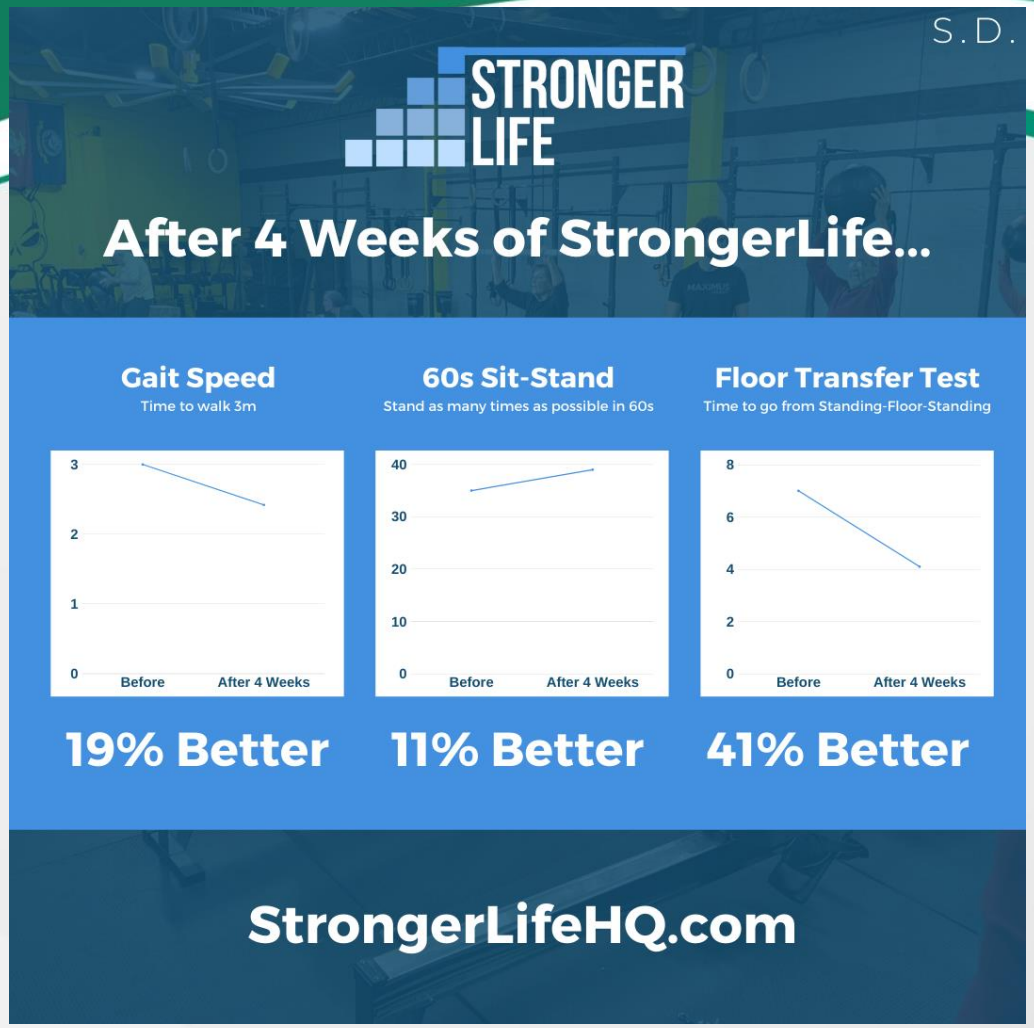

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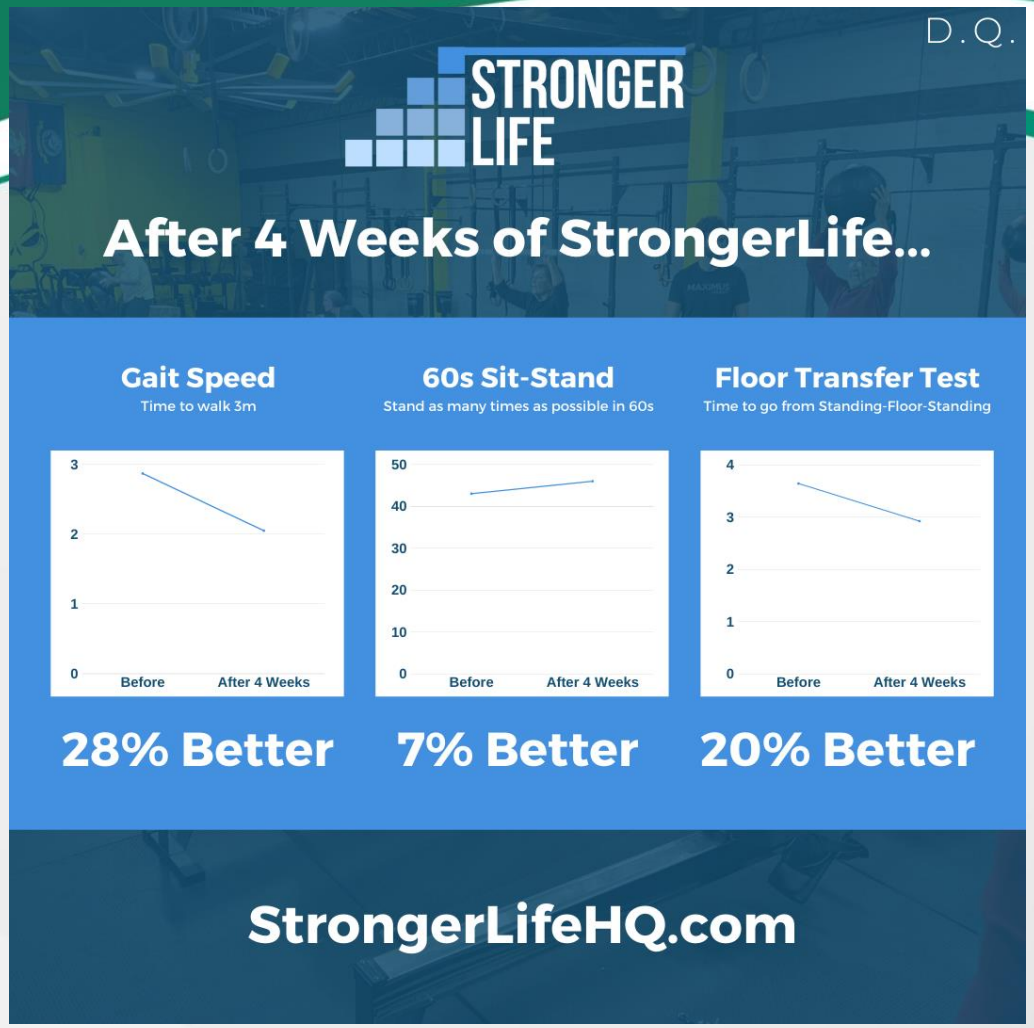

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#Avoid1RMLiving

1. **Reframing Risk**
2. **Scalability**
3. **Fitness with Friends**

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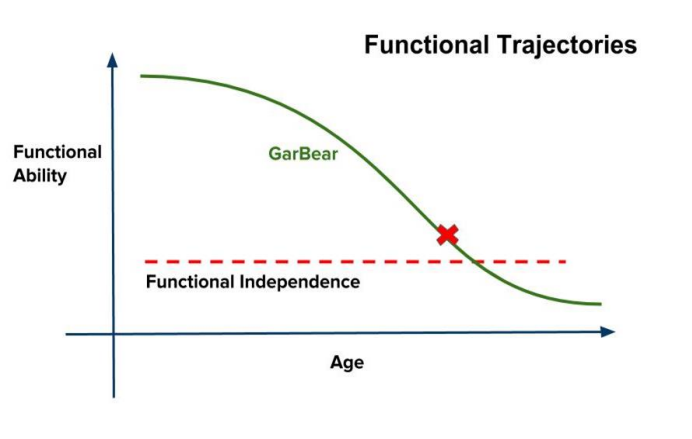
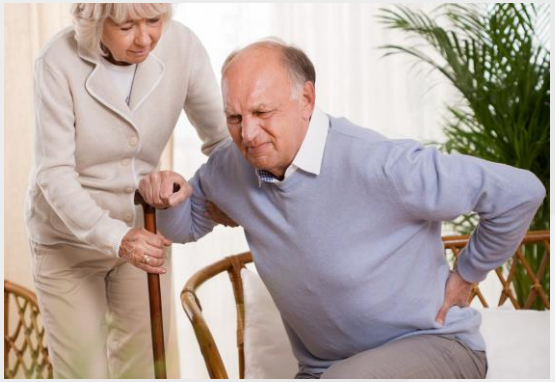
We often think of the RISK of LOADING.



BUT what's at RISK **if we DON'T LOAD**?



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What Has Greater Risk?

Risk of <u>Functional Decline</u>
from maximizing **"Safety"**?

Risk of Injury from a
"*Dangerous*" exercises.

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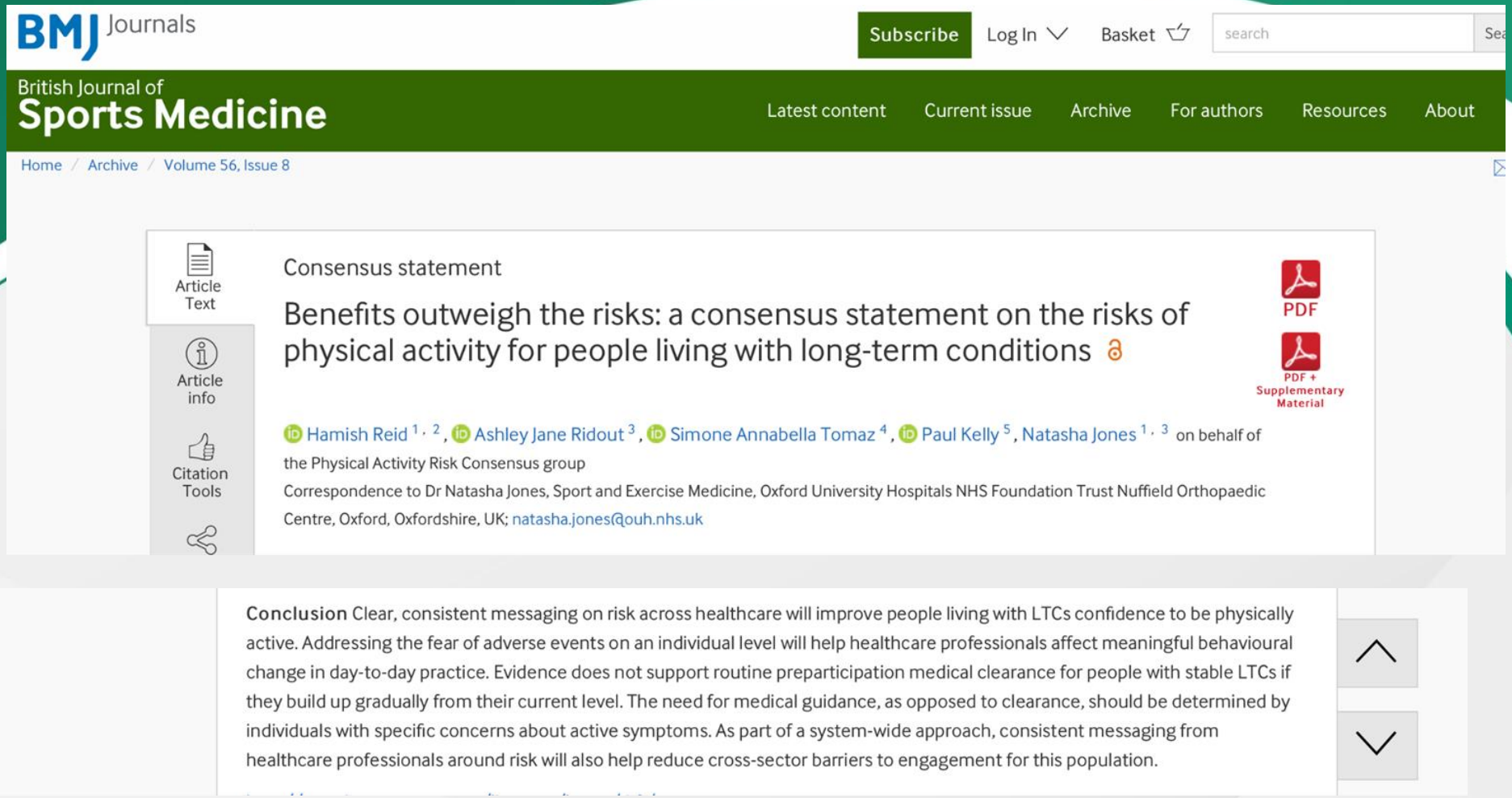

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Consensus statement

Benefits outweigh the risks: a consensus statement on the risks of physical activity for people living with long-term conditions

PDF

PDF + Supplementary Material

Hamish Reid [1, 2], Ashley Jane Ridout [3], Simone Annabella Tomaz [4], Paul Kelly [5], Natasha Jones [1, 3] on behalf of the Physical Activity Risk Consensus group

Correspondence to Dr Natasha Jones, Sport and Exercise Medicine, Oxford University Hospitals NHS Foundation Trust Nuffield Orthopaedic Centre, Oxford, Oxfordshire, UK; natasha.jones@ouh.nhs.uk

Conclusion Clear, consistent messaging on risk across healthcare will improve people living with LTCs confidence to be physically active. Addressing the fear of adverse events on an individual level will help healthcare professionals affect meaningful behavioural change in day-to-day practice. Evidence does not support routine preparticipation medical clearance for people with stable LTCs if they build up gradually from their current level. The need for medical guidance, as opposed to clearance, should be determined by individuals with specific concerns about active symptoms. As part of a system-wide approach, consistent messaging from healthcare professionals around risk will also help reduce cross-sector barriers to engagement for this population.

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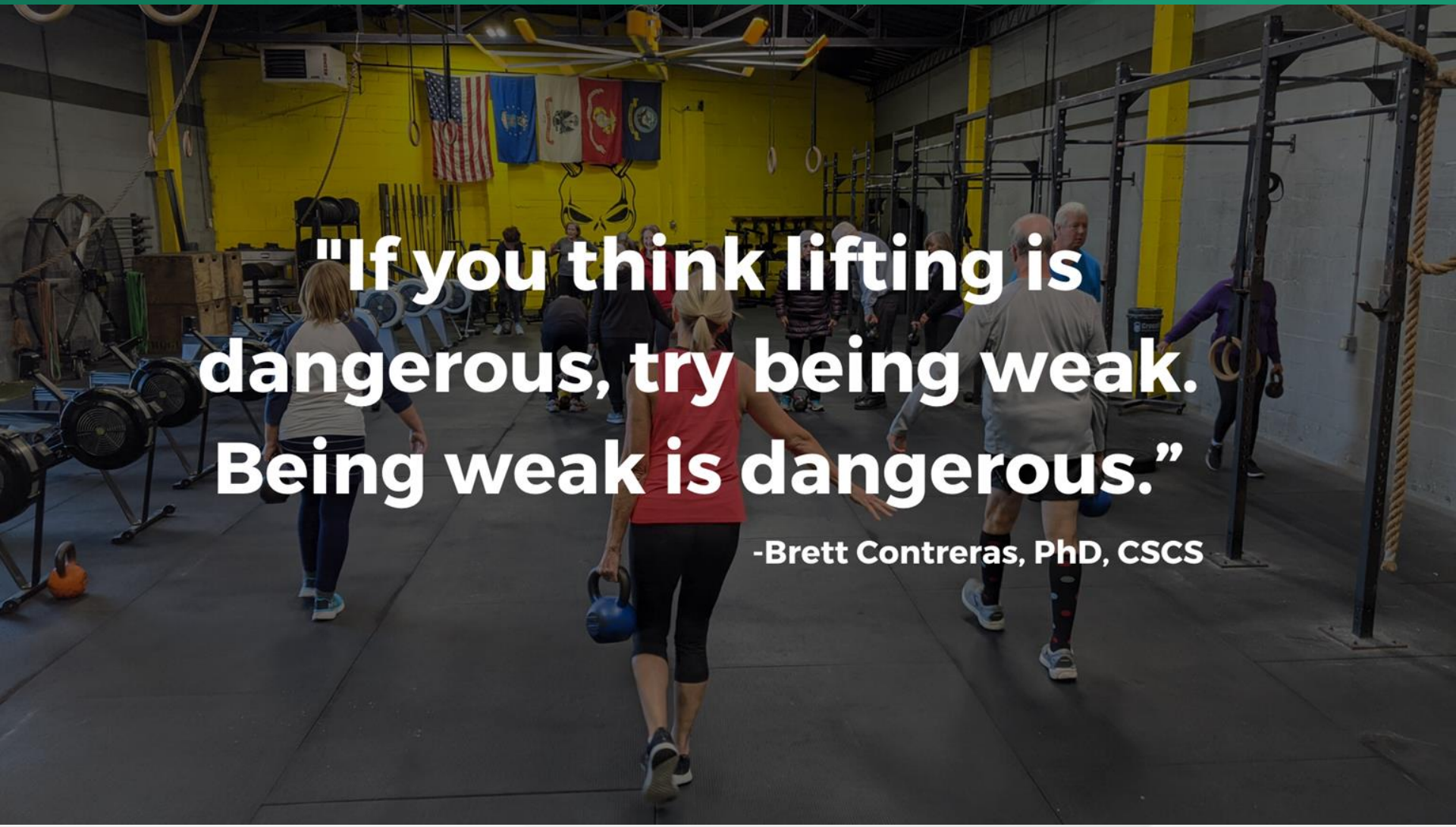

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1. **Reframing Risk**
2. **Scalability**
3. **Fitness with Friends**

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Deadlift Continuum

- Conventional Deadlift
- Trap Bar Deadlift
- Suitcase Deadlift
- KB/DB Sumo Deadlift
- Partial ROM KB/DB Sumo Deadlift
- TB Deadlift
- Resisted Hip Hinge

Increases in Difficulty

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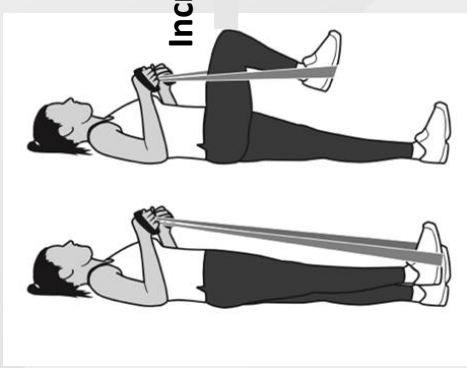
Squat Continuum

- Loaded Squat
- Air Squat
- Assisted Air Squat
- Box Squat/Light Goblet Box Squat
- Assisted Box Squat
- Leg Press

Increases in Difficulty



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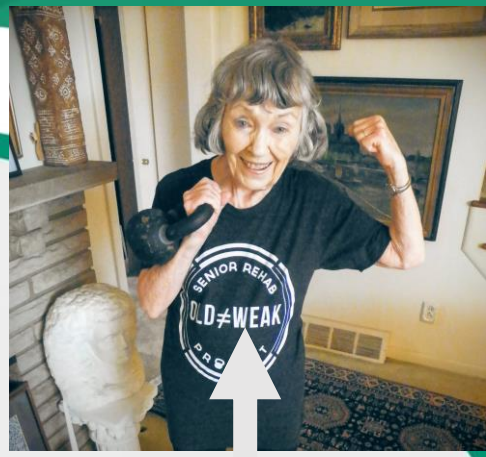
Carries Continuum

- Racked, Overhead, Crossed
- Asymmetrical Weight
- Suitcase (Uni)
- Farmers (Bi)
- Sleds/Prowlers/Walker
- Supported Walking
- Supported Stepping
- Static Holds
- Hardstyle Plank



Increases in Difficulty

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Preventive Medicine 87 (2016) 155–166

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Preventive Medicine

journal homepage: www.elsevier.com/locate/ypmed

- The programs identified in this review had average adherence rates of 69.1% (SD 14.6).
- CBGEP generate a sense of belonging and the social, supportive nature appears to aid adherence.

Article history:
Received 18 August 2015
Received in revised form 21 February 2016
Accepted 23 February 2016
Available online 24 February 2016

Keywords:
Adherence
Physical activity
Community based exercise programme
Older people
Review
Mixed-methods

Objective. Lifelong physical activity provides some of the best prospects for ageing well. Nevertheless, people tend to become less physically active as they age. This systematic review assessed the views and adherence of participants attending community based exercise programmes of ≥6 month's duration.

Method. Searches were carried out in eight online scientific databases (January 1995–May 2014) to identify relevant primary studies. Studies were assessed for quality and data extracted. Results were synthesised thematically and narratively. Qualitative findings were compared against quantitative studies.

Results. A total of 2958 studies were identified and screened against the inclusion/exclusion criteria. Ten studies met the inclusion criteria (five quantitative, three qualitative and two mixed-methods study designs). None were excluded on the basis of quality. Six key themes were identified from the qualitative studies as important for adherence to group exercise programmes: social connectedness, participant perceived benefits, programme design, empowering/energising effects, instructor and individual behaviour. The mean adherence rate of studies with comparable measures was (69.1% SD 14.6). When the views of participants from the qualitative synthesis were juxtaposed against the quantitative studies, programme design was a common feature across all studies.

Conclusion. Evidence surrounding these programmes is limited both in terms of long-term adherence mea-

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