



StrongerLife: A Program To End 1-RM Living

Jeff Musgrave PT, DPT, Cert. MDT, CF-L1, Cert. MMOA



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



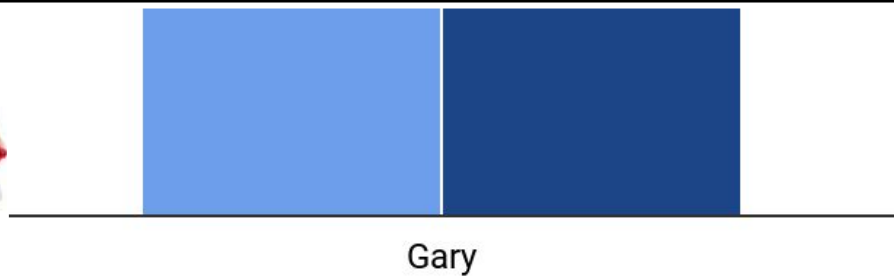


How Much GarBear Can Lift



1RM Living:

When demands of life are near or exceeding one's Maximum Capacity (or One Repetition Maximum = 1RM)



Old Adults Ne

Hypothesis:

Relative effort (% of Joint Moment) to execute ADL's is higher in older adults compared to young

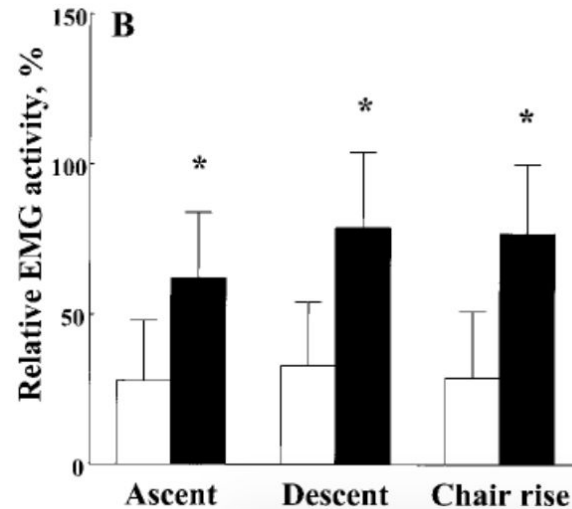
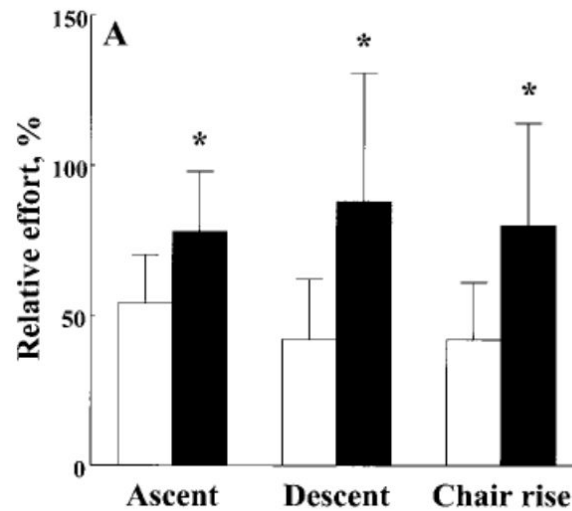
Methods:

- 13 Young Adults (~22 y.o)
- Used EMG & Force Plate
- Performed Maximal-Effort
- Performed Stairs & S2S

Results:

- Stair Ascent: 78% ± 20%
- Stair Descent: 88% ± 43%
- S2S: 80% ± 34%

OLD adults' ability to execute (ADLs) declines with age



y Living es

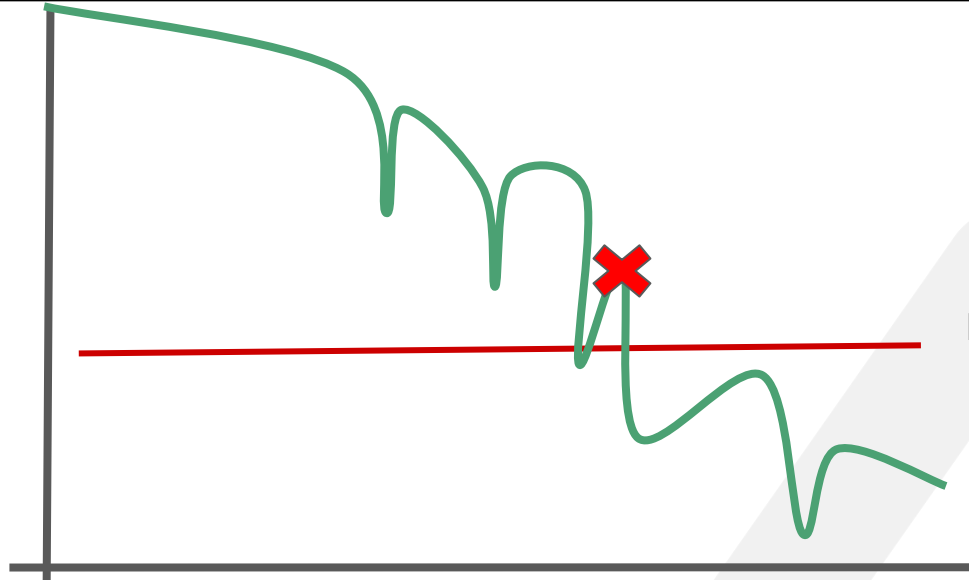
) to execute ADL's is higher in

combined with a need for rapid
h or even exceed old adults'

Low Physical Resilience



Physical
Function



Demand of an Activity

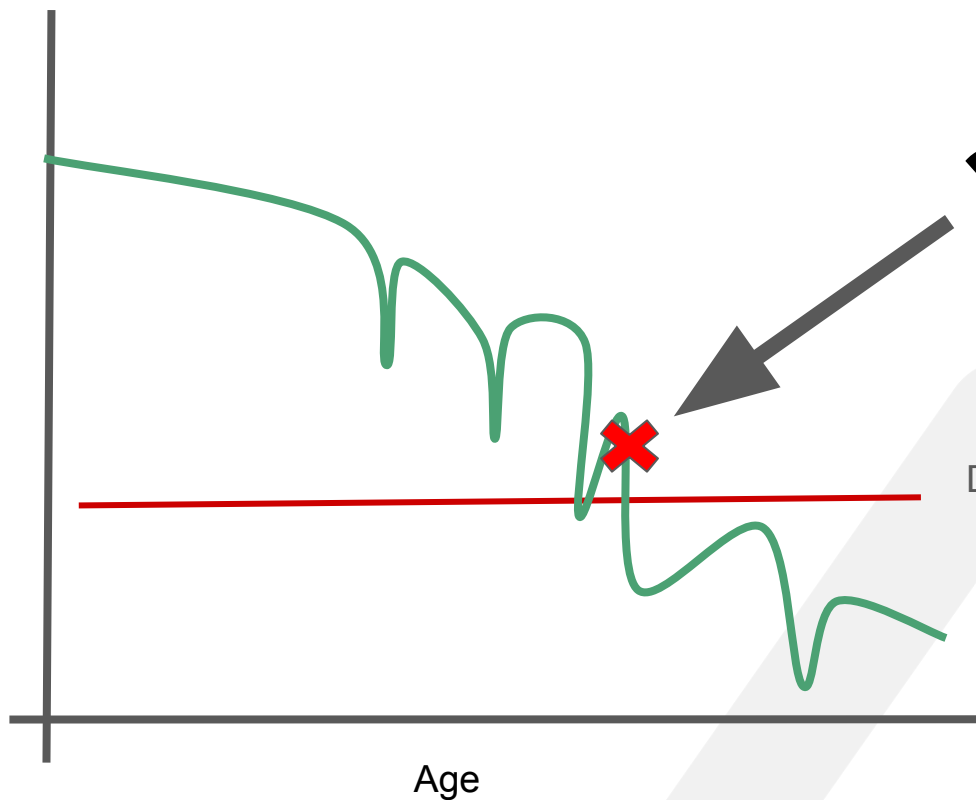
A Characteristic which determines one's ability to resist or recover from functional decline following health stressors.

Reebok CrossFit

How Do We IDENTIFY 1-RM Living?




Physical Function



Demand of an Activity

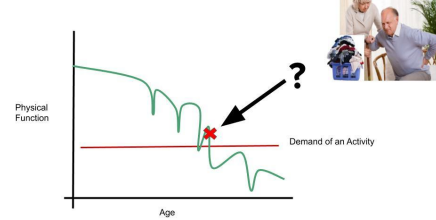


THE PROCESS

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



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

THE PROCESS

- Subjective
- Physical Examination
 - i. Screening
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Vital Signs: (noun)

clinical measurements, specifically pulse rate, temperature, respiration rate, and blood pressure, that indicate the state of a patient's **essential body functions**.

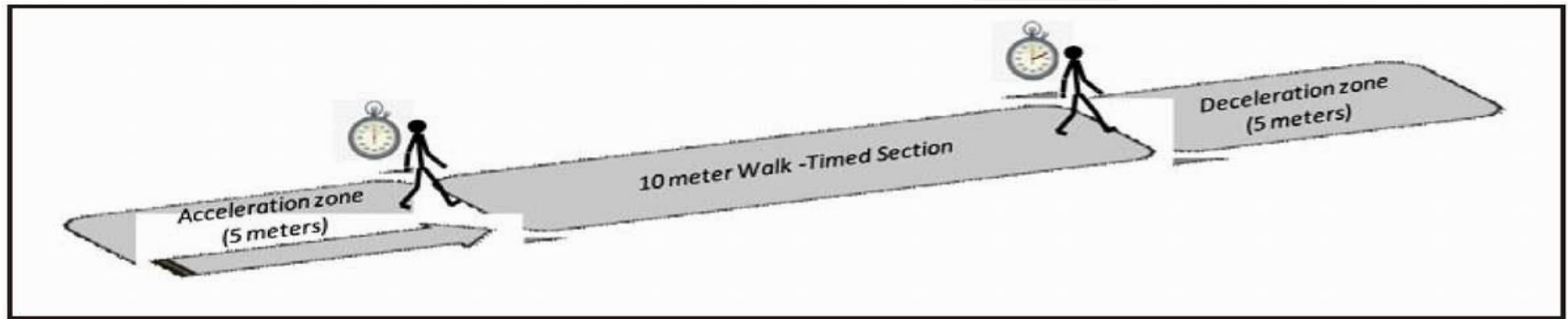


White Paper: “Walking Speed: the Sixth Vital Sign”

Fritz, Stacy PT, PhD¹ ; Lusardi, Michelle PT, PhD² [Author Information](#)

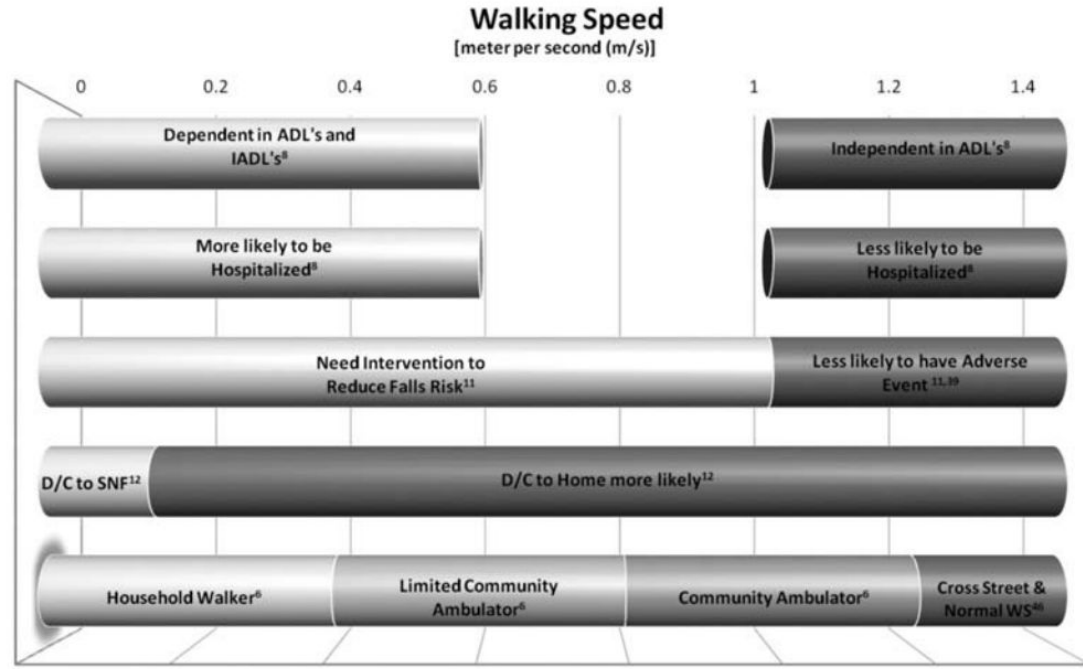
Journal of Geriatric Physical Therapy: 2009 - Volume 32 - Issue 2 - p 2-5

Walking speed is “almost the perfect measure.”¹ A reliable, valid,^{2,3} sensitive⁴ and specific⁵ 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 decline¹⁰ 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 falls¹⁶ and fear of falling.¹⁷ Furthermore, progression of WS has been linked to clinical meaningful changes in quality of life¹⁸ and in home and community walking behavior**



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

Movement Vitals

Timed Up & Go (TUG)

 Check for updates

Full research paper

European Journal of
Preventive
Cardiology



ESC
European Society
of Cardiology

European Journal of Preventive
Cardiology

hazard ratio=1.17, 95% confidence interval=0.96–1.44).

Conclusion: Slower Timed Up and Go test speed is associated with increased risk of developing myocardial infarction, congestive heart failure, and mortality in older adults.

Sohyun Chun^{1,*}, Dong Wook Shin^{2,3}, Kyungdo Han^{4,*},
Jin Hyung Jung⁵, Bongseong Kim⁶, Hee-Won Jung⁷,
Ki Young Son⁸, Seung-Pyo Lee⁹ and Sang Chol Lee¹⁰

Abstract

Aim: This study aimed to evaluate the relationship between Timed Up and Go test performance and the incidence of older adult heart diseases and mortality.

Methods: This was a retrospective cohort study of 1,084,875 older adults who participated in a national health screening program between 2009–2014 (all aged 66 years old). Participants free of myocardial infarction, congestive heart failure, and atrial fibrillation at baseline were included and were divided into Group 1 (<10 s), Group 2 (10–20 s) and Group 3 (≥20 s) using the Timed Up and Go test scores. The endpoints were incident myocardial infarction, congestive heart failure, atrial fibrillation, and all-cause mortality.

Results: During mean follow-up of 3.6 years (maximum 8.0 years), 8885 myocardial infarctions, 10,617 congestive heart failure, 15,222 atrial fibrillations, 122,100 deaths were observed. Participants in Group 1 had significantly lower risk of incident myocardial infarction, congestive heart failure, atrial fibrillation, and all-cause mortality compared with Group 2 (hazard ratio=0.85, 95% confidence interval=0.81–0.89, P<0.001; hazard ratio=0.85, 95% confidence interval=0.81–0.89, P<0.001; hazard ratio=0.85, 95% confidence interval=0.81–0.89, P<0.001; hazard ratio=0.85, 95% confidence interval=0.81–0.89, P<0.001).

Movement Vitals

Grip Strength

WHAT IS ALREADY KNOWN ON THIS TOPIC

Grip strength has previously been found to be associated with health outcomes

WHAT THIS STUDY ADDS

Higher grip strength was associated with a lower risk of all cause mortality and incidence of and mortality from cardiovascular disease, respiratory disease, chronic obstructive pulmonary disease, all cancer and sub-types of cancer

The associations were independent of confounders, but several of these associations were weaker in older age categories

Grip strength improved the prediction ability of an office based risk score, and muscle weakness is associated with poorer health outcomes and thus may have

Men < 26kg

Women < 16kg

0.1136/bmj.k1651
March 2018

PARTICIPANTS

502 293 participants (54% women) aged 40-69 years.

MAIN OUTCOME MEASURES

All cause mortality as well as incidence of and mortality from cardiovascular disease, respiratory disease, chronic obstructive pulmonary disease, and cancer (all cancer, colorectal, lung, breast, and prostate).

cardiovascular mortality (0.009), and mortality from cardiovascular disease (0.009).

CONCLUSION

Higher grip strength was associated with a range of health outcomes and improved prediction of an office based risk score. Further work on the use of grip strength in risk scores or risk screening is needed to establish its potential clinical utility.

Amazon's Choice



Sponsored ⓘ

CAMRY Digital Hand Dynamometer Grip Strength Measurement Meter Auto Capturing Hand Grip Power 20...

★★★★☆ < 281

\$29⁹⁹

2018. Downloaded from

Reebok CrossFit

What can we do about it?





Clinical Significance

Muscle weakness is related to decreased physical function and falls and is a compelling reason for physical therapy intervention. However, inadequate resistance is too often seen in the clinic where 2lb weights are commonly used and an arbitrary number of repetitions to perform is given, *without a quantitative baseline assessment of strength*. Strengthening without rationale or adequate stimulus is tantamount to malpractice.





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.”

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



82 Years Old

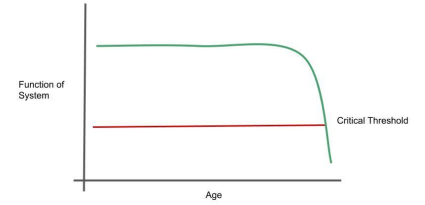
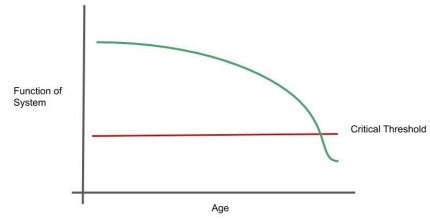
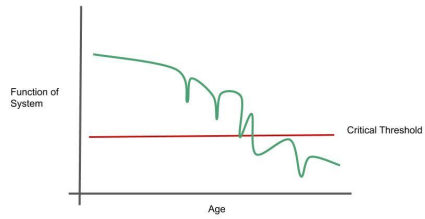


82 Years Old



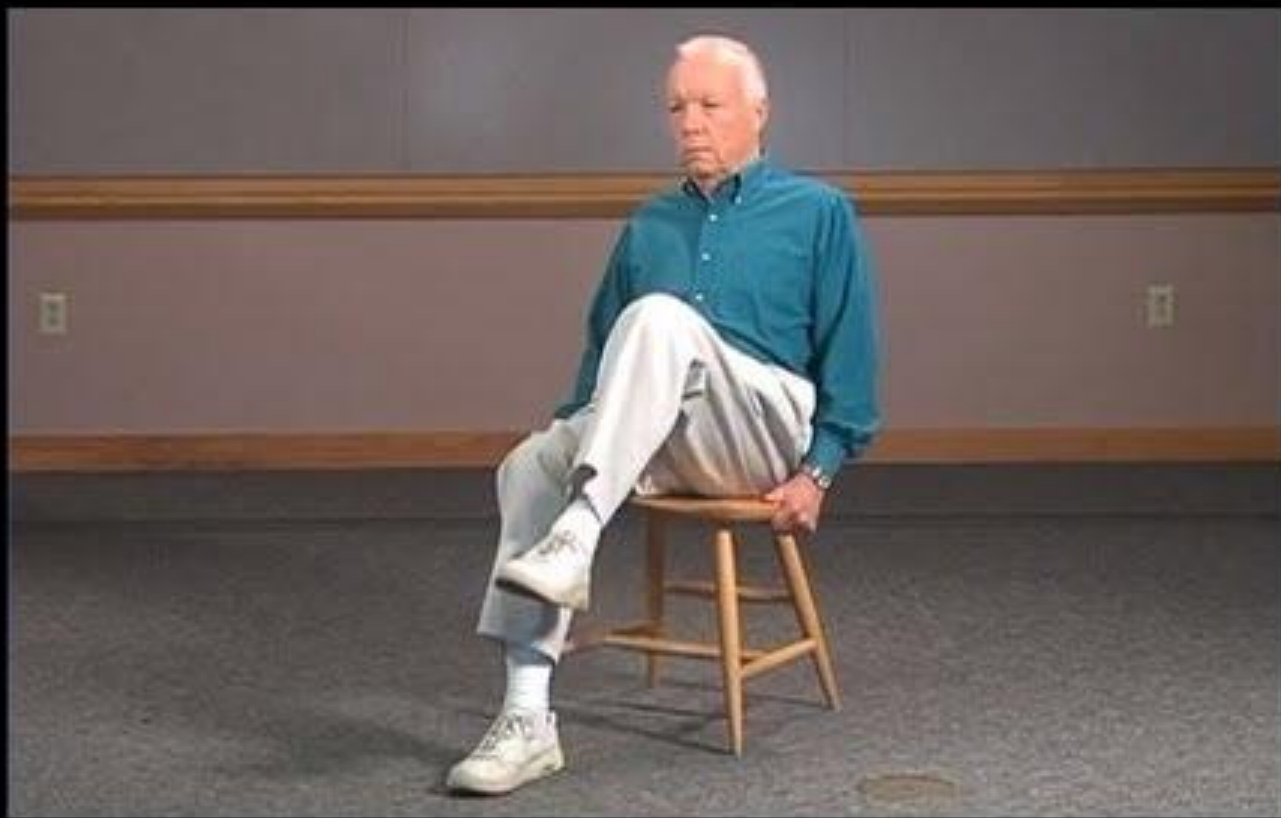
82 Years Old







**But Jeff...
I exercise.**



ACSM and CDC Recommendations



150 minutes
of moderate-intensity aerobic activity every week

2X per week
Muscle-strengthening activities on 2 or more days a week that work all major muscle groups



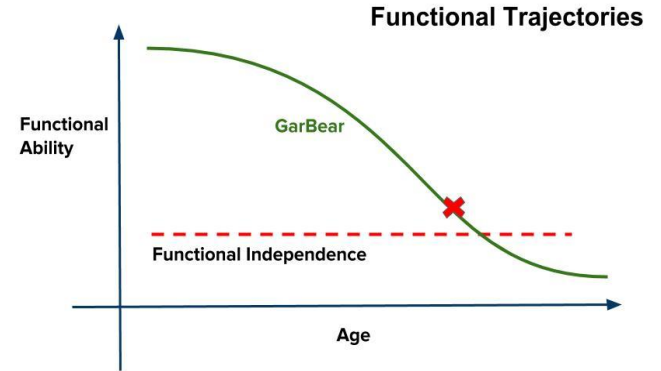
#Avoid1RMLiving

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



We often think of the RISK of LOADING.

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



What Has Greater Risk?

Risk of Functional Decline
from maximizing **“Safety”**?



Risk of Injury from a **“Dangerous”**
exercises.



A group of people are working out in a gym. The gym has yellow walls and various pieces of equipment, including barbells, kettlebells, and ropes. The people are dressed in athletic wear and are engaged in different exercises. The text is overlaid on the image in a large, white, sans-serif font.

"If you think lifting is dangerous, try being weak. Being weak is dangerous."

-Brett Contreras, PhD, CSCS

Make Life Easier



Join StrongerLife



#END1RMLiving

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



A group of people are in a gym setting. In the foreground, a person is performing a squat. In the background, several people are holding medicine balls. The gym has yellow walls, a large window, and various pieces of equipment like a rowing machine and a wooden box. The text "The needs of an Olympic" is overlaid in white on a black background.

"The needs of an Olympic

Speed

-Greg Glassman, CEO of CrossFit

#END1RMLiving

1. Reframing Risk
2. Scalability
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Contents lists available at ScienceDirect

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-



**Fitness is more fun with friends &
it can save lives..**

Loneliness and Social Isolation as Risk Factors for Mortality: A Meta-Analytic Review

Perspectives on Psychological Science
2015, Vol. 10(2) 227–237
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sagepub.com/journalsPermissions.nav
DOI: 10.1177/1745691614568352

“Overall, the influence of both objective and subjective social isolation on risk for mortality is **comparable with well-established risk factors for mortality.**”

Abstract

Actual and perceived social isolation are both associated with increased risk for early mortality. In this meta-analytic review, our objective is to establish the overall and relative magnitude of social isolation and loneliness and to examine possible moderators. We conducted a literature search of studies (January 1980 to February 2014) using MEDLINE, CINAHL, PsycINFO, Social Work Abstracts, and Google Scholar. The included studies provided quantitative data on mortality as affected by loneliness, social isolation, or living alone. Across studies in which several possible confounds were statistically controlled for, the weighted average effect sizes were as follows: social isolation odds ratio (OR) = 1.29, loneliness OR = 1.26, and living alone OR = 1.32, corresponding to an average of 29%, 26%, and 32% increased likelihood of mortality, respectively. We found no differences between measures of objective and subjective social isolation. Results remain consistent across gender, length of follow-up, and world region, but initial health status has an

#END1RMLiving

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Dianne Stamper
August 19 at 12:33 PM · 🌐

GOOD NEWS!

Had my checkup this morning and because of my weight loss and healthy lifestyle changes my doc is taking me off the HBP med. Thank you StrongerLife family for making fitness so enjoyable! 🍌🍌🍌🍌🍌

👍❤️👀 38

19 Cc



Lucie MacDonald
June 27 · 🌐

Sorry to have missed seeing y'all this a.m....annual "well woman checkup". Bloodwork was improved....BP DOWN (129/85), good cholesterol UP, A1C DOWN, Liver enzymes, THE SAME, Thyroid NORMAL....

Thank you, StrongerLife! Doc has requested flyers/brochures/postcards to direct other seniors to SL. Can you provide??

and have soooo far to go. I'm just to know you, too! LOVE YOU

12 Comments Seen by 80



It has been 6 months, the weak old lady that couldn't lift a 25 lb of dog food when she started just reached her goal of lifting 100 lbs for her 70th birthday! Today I feel stronger and happier, ready to embrace life, and enjoy my new lifestyle, I got a bicycle for my birthday and plan on doing a 5k run/walk this fall!

If you can walk you can exercise and get stronger at Stronger Life!"

-Beverly C.



Set Up for Success:

- Identify the Problem
- Plant The Seeds Early
- Know Where to Refer



Questions?

jmusgravePT@gmail.com

Insta: @JmusgravePT

www.strongerlifehq.com

859-334-0787

