

Only walking for exercise? Here's how to get the most out of it

March 14 2024, by Ken Nosaka



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We're living longer than in previous generations, with [one in eight](#) Australians aged over 85. But the current [gap](#) between life expectancy ("lifespan") and health-adjusted life expectancy ("healthspan") is about 10 years. This means many of us live with significant health problems in our later years.

To increase our healthspan, we need planned, structured and regular physical activity (or exercise). The [World Health Organization recommends](#) 150–300 minutes of moderate-intensity exercise—such as [brisk walking](#), cycling and swimming—per week and muscle strengthening twice a week.

Yet few of us meet these recommendations. [Only 10%](#) meet the strength-training recommendations. [Lack of time](#) is one of the most common reasons.

Walking is cost-effective, doesn't require any special equipment or training, and can be done with small pockets of time. [Our preliminary research](#), published this week, shows there are ways to incorporate strength-training components into walking to improve your muscle strength and balance.

Why walking isn't usually enough

Regular walking does not appear to work as muscle-strengthening exercise.

In contrast, exercises consisting of "eccentric" or muscle-lengthening contractions improve muscle strength, [prevent muscle wasting](#) and improve other functions such as balance and flexibility.

Typical eccentric contractions are seen, for example, when we sit on a chair slowly. The front thigh muscles lengthen with force generation.

Our research

Our [previous research](#) found body-weight-based eccentric exercise training, such as sitting down on a chair slowly, improved lower limb muscle strength and balance in healthy older adults.

We also [showed](#) walking down stairs, with the front thigh muscles undergoing eccentric contractions, increased leg muscle strength and balance in older women more than walking up stairs. When climbing stairs, the front thigh muscles undergo "concentric" contractions, with the muscles shortening.

It can be difficult to find stairs or slopes suitable for eccentric exercises. But if they could be incorporated into daily walking, lower limb muscle strength and balance function could be improved.

This is where the idea of "eccentric walking" comes into play. This means inserting lunges in conventional walking, in addition to downstairs and downhill walking.

In our [new research](#), published in the European Journal of Applied Physiology, we investigated the effects of eccentric walking on lower limb muscle strength and balance in 11 regular walkers aged 54 to 88 years.

The intervention period was 12 weeks. It consisted of four weeks of normal walking followed by eight weeks of eccentric walking.

The number of eccentric steps in the eccentric walking period gradually increased over eight weeks from 100 to 1,000 steps (including lunges,

downhill and downstairs steps). Participants took a total of 3,900 eccentric steps over the eight-week eccentric walking period while the total number of steps was the same as the previous four weeks.

We measured the thickness of the participants' front thigh muscles, muscle strength in their knee, their balance and endurance, including how many times they could go from a sitting position to standing in 30 seconds without using their arms. We took these measurements before the study started, at four weeks, after the conventional walking period, and at four and eight weeks into the eccentric walking period.

We also tested their cognitive function using a digit symbol-substitution test at the same time points of other tests. And we asked participants to complete a questionnaire relating to their activities of daily living, such as dressing and moving around at home.

Finally, we tested participants' blood sugar, [cholesterol levels](#) and complement component 1q (C1q) concentrations, a potential [marker of sarcopenia](#) (muscle wasting with aging).

What did we find?

We found no significant changes in any of the outcomes in the first four weeks when participants walked conventionally.

From week four to 12, we found significant improvements in [muscle strength](#) (19%), chair-stand ability (24%), balance (45%) and a cognitive function test (21%).

Serum C1q concentration decreased by 10% after the eccentric walking intervention, indicating participants' muscles were effectively stimulated.

The sample size of the study was small, so we need larger and more

comprehensive studies to verify our findings and investigate whether eccentric walking is effective for sedentary people, older people, how the different types of eccentric exercise compare and the potential cognitive and mental health benefits.

But, in the meantime, "eccentric walking" appears to be a beneficial [exercise](#) that will extend your healthspan. It may look a bit eccentric if we insert lunges while walking on the street, but the more people do it and benefit from it, the less eccentric it will become.

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