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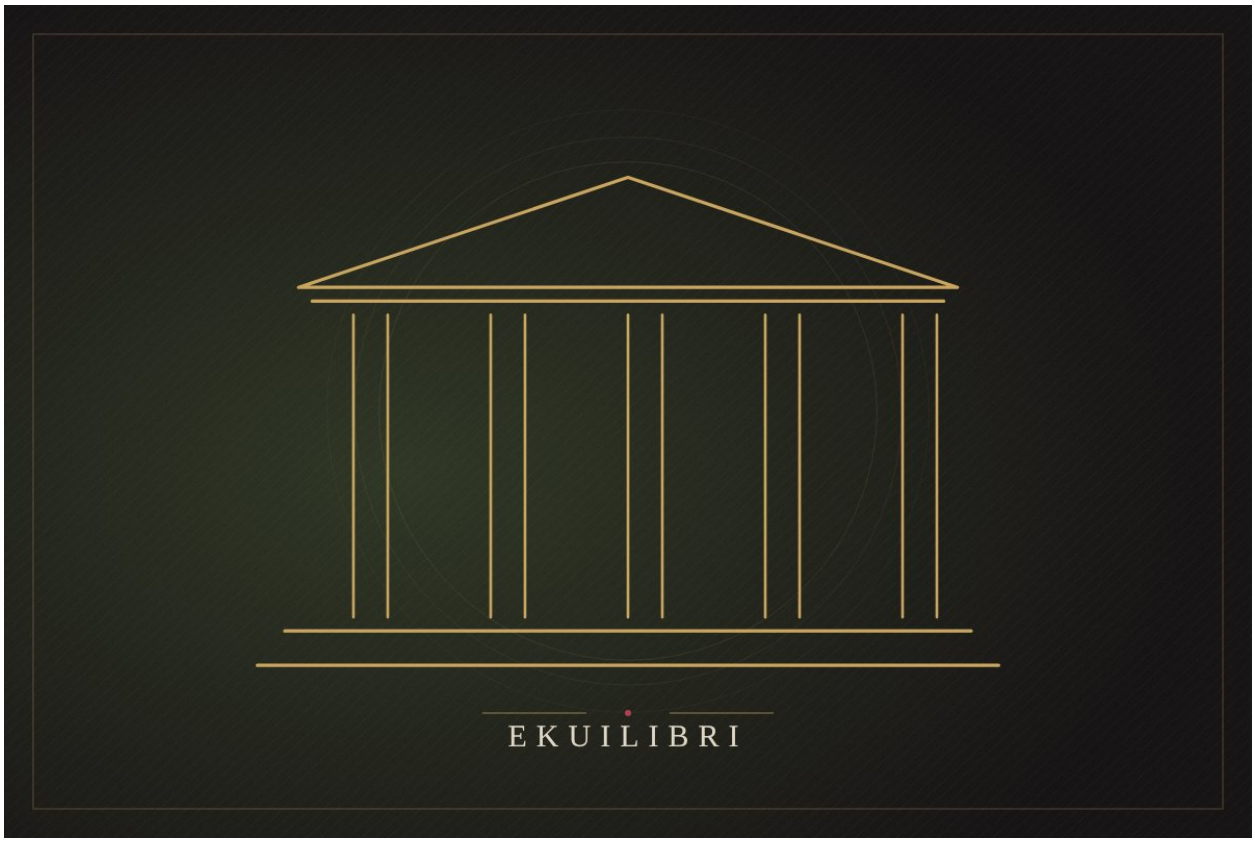
Body

Balance and falls: the exercises that protect independence in older age

The Cochrane review by Catherine Sherrington and colleagues (2019) with 108 clinical trials and simple exercises you can do at home

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Translated from the Albanian original by the editors.



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For many older people a fall is not just a passing pain. It can bring a broken hip, weeks in hospital and, often, a loss of confidence to go out alone. Fear of falling can reduce movement, and less movement weakens the body even more.

What the evidence says

In 2019 a group of researchers led by Catherine Sherrington published a Cochrane review, one of the most rigorous kinds of scientific review. They analysed 108 clinical trials with nearly 23,000 participants over 60 living in their own homes.

Exercise programmes reduced the number of falls by about **23 per cent**. Exercises that included balance and functional activities, such as rising from a chair or walking on narrow lines, were among the most effective. Tai chi also showed good effects. Programmes combining several types of exercise, such as balance and strength, also reduced risk.

> *Balance is not lost only to age. It is also lost to lack of practice, and it can be regained.*

Why they work

Balance depends on the muscles of the legs and trunk, on the senses that tell us where we are in space and on reaction speed. All of these weaken if they are not used, but improve with practice, even at an advanced age.

Simple exercises for home

Do them next to a table or a sturdy chair you can hold on to:

1. **Standing on one leg:** 10–30 seconds on each leg, holding on lightly if needed.
2. **Heel-to-toe walking:** walk in a straight line, placing the heel of one foot in front of the toes of the other, for 10–20 steps.
3. **Rising from a chair** without using your hands, 5–10 times.
4. **Rising on to your toes:** slowly rise on to tiptoe and come down, 10 times.
5. **Side steps:** 10 steps to the left and 10 to the right, keeping the body upright.

Studies suggest the programmes work best when done regularly, about three times a week, for several months.

Why we fall

In 1988 Mary Tinetti and colleagues followed for one year more than 300 older people living in their own homes in Connecticut. About a third of them fell at least once. The risk rose sharply with the number of factors a person had: use of sedatives, weakness in the legs, problems with balance and walking, problems with vision and memory impairment. In people with none of these factors, the risk was low, while among those with four or more factors, most fell during the year. This showed that falls have many

causes that can be influenced.

The Otago programme

In 1997 John Campbell and colleagues in New Zealand tested a home exercise programme for women aged 80 and over. A physiotherapist visited the women several times and taught them simple strength and balance exercises, such as rising from a chair, standing on tiptoe and walking heel to toe, as well as regular walking. After one year, the women who followed the programme had about a third fewer falls than the women in the control group. This programme, known as the Otago programme, is used today in many countries.

Tai Chi

Steven Wolf and colleagues in Atlanta compared in 1996 computerised balance training, Tai Chi training and an education group among about 200 older people. After 15 weeks, the Tai Chi group, with its slow and controlled movements, reduced the risk of multiple falls by about 47 per cent during the follow-up period. Participants also reported less fear of falling. Later studies have generally confirmed that Tai Chi is one of the most useful forms of exercise for this purpose.

The consequences of a hip fracture

Why are falls so important? Hip fractures, often caused by a fall, are especially dangerous. In 2010 Patrick Haentjens and colleagues combined data from many studies and found that in the first three months after a hip fracture, the risk of death was about five to eight times higher than in people of the same age without a fracture. Even those who survive often lose some of their independence. This makes fall prevention one of the highest priorities in the care of older people.

A simple test

Doctors often use short tests to assess risk. One of them is part of the Short Physical Performance Battery, developed by Jack Guralnik and colleagues in 1994. The person rises from a chair without using their arms five times in a row, as quickly as they can, and the time is measured. The battery also includes balance tests and walking speed. Poor results on these tests are linked to a higher risk of falls and loss of independence. If rising from a chair without using the arms is difficult, it is worth talking to a doctor.

Besides exercise

- Have your eyesight checked and review medicines that cause dizziness.
- Remove small rugs that slip and light corridors and stairs well.
- Fit grab rails in the bathroom and next to the stairs.
- Talk to your doctor or physiotherapist if you have fallen before or are afraid of falling.

It is never too late to start. Many of the participants in the trials included in the review were over 70, and the benefits were seen in them too. If you have an elderly parent or grandparent, you can do the exercises together: that way they feel safer and you spend time together.

Sources

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