Exercising during a hospital stay linked with faster recovery, says new research

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When a person is admitted to hospital for any reason—whether due to illness or to undergo surgery—it's expected they will spend the duration of their stay resting in bed while they recover. While rest is important, too much sitting or bed rest can actually make matters worse, with research showing it can slow recovery and lead to more health problems.

Our latest study shows that physical activity may help to counteract the effects of bed rest. We found that even just 25 minutes a day of walking while in hospital can significantly speed up recovery for older adults—and it may also prevent new hospital stays in the future.

To conduct our study, we analyzed data from 19 clinical trials that looked at the effect of staying active in the hospital on a participant's physical function, their risk of subsequent health problems (such as falls), and also risk of hospital readmission.

In total, we looked at data from 3,000 older adults aged 55 to 78, who were admitted to a hospital intensive care unit or general medicine ward for seven to 42 days because of an acute illness (such as respiratory failure) or for surgery. We also looked at different types and amounts of physical activity, from simple bedside stretching exercises to walking programs, as well as daily strength and aerobic exercises.

Our analysis revealed that older adults who did light physical activity (such as walking) while staying in hospital had better physical function by the end of their hospital stay, and a 10% lower risk of being readmitted to hospital within 30 days of discharge, compared with those who did not. The more activity a person did—and the more intense that activity was—the better their physical function and the lower their risk of being readmitted.

Overall, we found the optimal amount of activity was around 40 minutes per day of walking at moderate intensity—that is, walking at a speed that makes you slightly out of breath.

Importantly, older adults who remained active in the hospital were also 10% less likely to experience falls, disability or death after discharge, compared with those who remained inactive. This suggests physical activity may protect against the harmful effect of too much bed rest

during hospital stays.

Other studies have also shown the benefits of physical activity during a hospital stay. For instance, research shows that early mobility therapy for critically ill and unconscious patients staying in intensive care units have faster recovery, better physical function, and more ventilator-free days.

Our study adds to this evidence by identifying optimal exercise types, as well as the amount of activity needed to see benefits.

The importance of movement

The idea that we should rest in bed while in hospital—and that activity could hamper recuperation—has long been a misconception. In fact, we have known since the 1940s about the negative effects of bed rest.

Since then, a lot of bed rest research has been conducted—mainly to understand what effect space exploration may have on the body, since astronauts spend long periods in a weightless environment. Surprisingly, within hours of bed rest, we start to lose muscle and bone mass. This leads to deconditioning, loss of strength, and ultimately a reduced ability to do daily tasks independently.

Prolonged bed rest also decreases blood flow and lung capacity and increases the risk of deep vein thrombosis. It can also lead to pressure sores and constipation and incontinence.

But physical activity helps to prevent deconditioning and preserve the muscle strength needed for mobility and daily tasks. It also keeps the cardiovascular system working as it should, and helps prevent deep vein thrombosis and gastrointestinal problems.

And the benefits of movement aren't only physical. Exercise is shown to

relieve boredom and improve mood. It also connects patients with staff and caregivers, improving mental health.

Importantly, being active while in the hospital will help patients remain active in their daily lives, which is one of the most effective ways to stay healthy once back at home. This may explain why our study found that those who were active during a hospital stay had lower readmission rates.

So, next time you need to go to the hospital, pack your walking shoes. There's no "one size fits all" solution, but every movement counts. The key is to make sure you're doing activities suited to your abilities. If you're recovering from surgery or have a heart condition, be sure to start slowly with exercise and then increase it gradually.

Even small things—such as getting out of bed and moving to a nearby chair to rest, or going for a short stroll to the toilet or cafeteria—are a good start. If you aren't sure where to begin, be sure to talk to your GP, nurse or even a physiotherapist who can recommend a tailored routine.

More information: Daniel Gallardo-Gómez et al, Optimal dose and type of physical activity to improve functional capacity and minimise adverse events in acutely hospitalised older adults: a systematic review with dose-response network meta-analysis of randomised controlled trials, *British Journal of Sports Medicine* (2023). DOI: 10.1136/bjsports-2022-106409