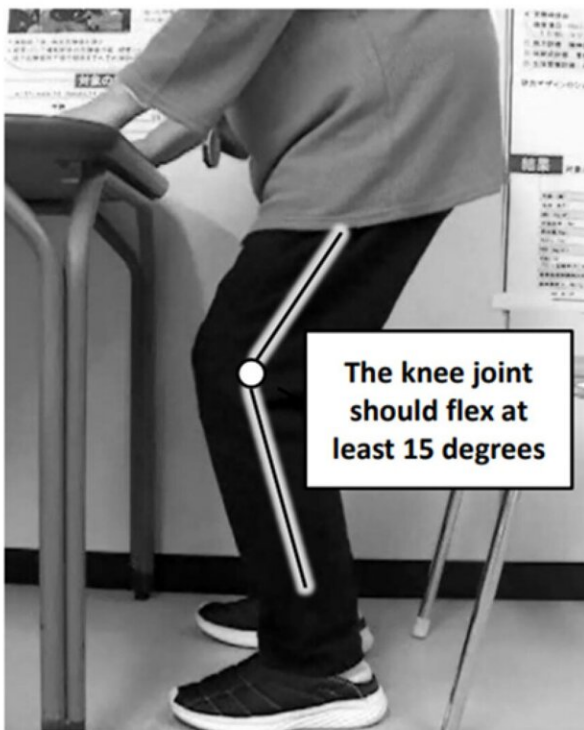
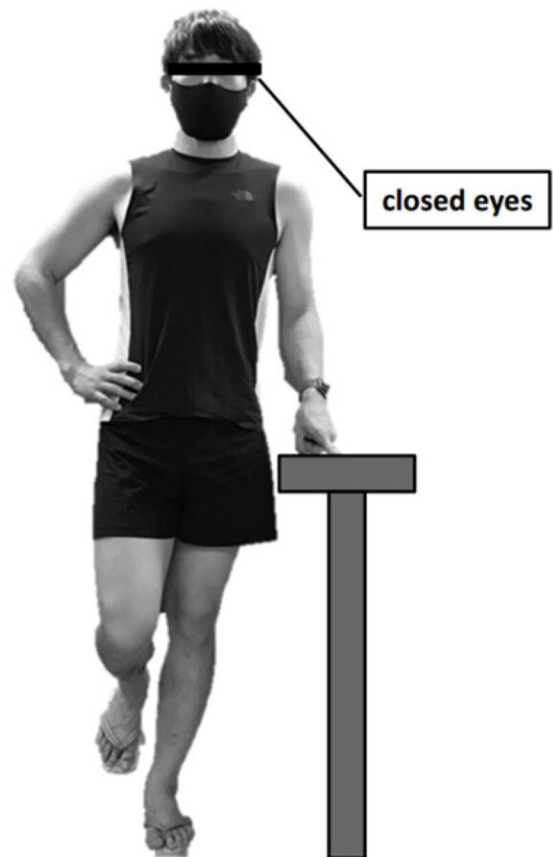


Development of a remote monitoring training system for home exercise programs

April 3 2024



(a)



(b)

Exercise protocols provided by SUKUBARA®. (a) Resistance exercises (slow squats). (b) Balance exercises (one-legged stance with eyes closed). Credit: *Geriatrics* (2024). DOI: 10.3390/geriatrics9010020

Researchers at University of Tsukuba have developed SUKUBARA, a home training system that includes a complex exercise program. This program can be easily and quickly performed by watching instructional videos and using a remote monitoring system. The effectiveness of the proposed system was evaluated with elderly participants, demonstrating its potential to increase muscle mass and leg strength.

Japan is currently facing a hyper-aged society, and the number of older adults who become frail (a state of physical and mental deterioration due to aging) is increasing. Frailty has various effects, including a higher probability of mobility loss or becoming bedridden in later life and increased costs related to [medical care](#) and long-term care.

Although [physical exercise](#) is crucial in preventing [frailty](#), the development of an easy-to-use training system for [older adults](#) that can be used at home is lacking. To address this issue, this research group devised the new training system with a simple exercise program and a monitoring function to manage its remote implementation. The study is [published](#) in the journal *Geriatrics*.

SUKUBARA combines resistance and balance exercises into an exercise program that can be completed quickly and is provided through a video channel. This is combined with a monitoring system that allows the video channel administrator to track and monitor the duration each participant spends on exercise videos and record it as the actual time they spent performing exercises.

The efficacy of SUKUBARA was assessed among healthy elderly residents of Tsukuba City and found that using the proposed system may increase [muscle mass](#) and leg strength. The development and dissemination of such a system is expected to create a systematic frailty prevention system for older people.

More information: Yasuhiro Suzuki et al, Effectiveness of a Remote Monitoring-Based Home Training System for Preventing Frailty in Older Adults in Japan: A Preliminary Randomized Controlled Trial, *Geriatrics* (2024). [DOI: 10.3390/geriatrics9010020](https://doi.org/10.3390/geriatrics9010020)

Provided by University of Tsukuba

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