A Single Session of Community-Delivered Perturbation-Based Balance Training is Associated With Reduced Falls in Older Adults

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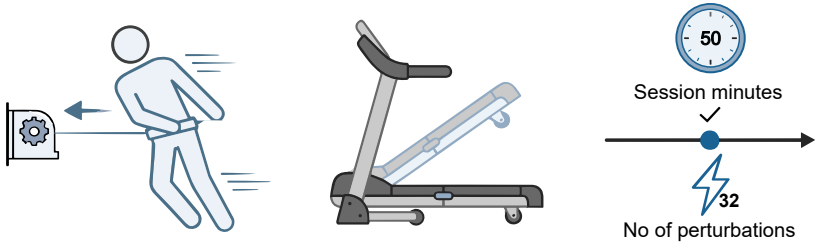
How can perturbation-based balance training be scaled to community settings?



Cable-driven perturbation device | **Portable / foldable treadmill for walking** | **Single-session protocol**

Single-arm, pre-post intervention study

Participant demographics

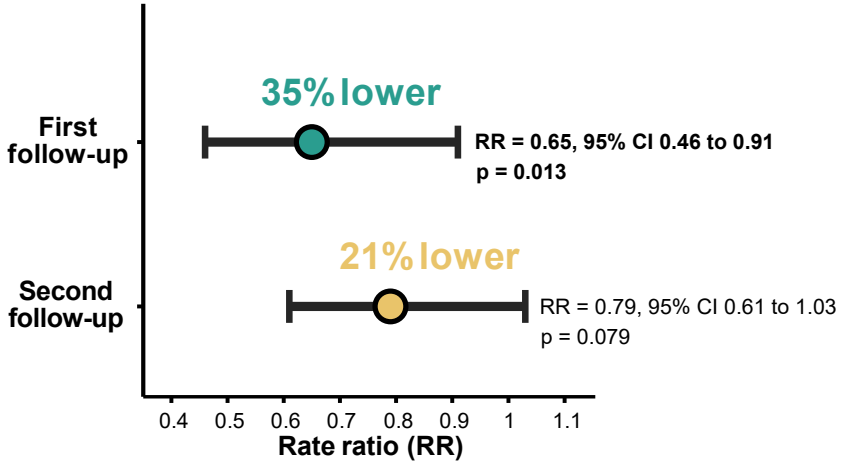
N = 100
67% Female
Age = 75.3 ± 7.5
~60% with comorbidities

Self-reported falls

Before training
Retrospective 12 months
Total no of falls = 81

After training
First Follow-up = 6.8 months
Second Follow-up = 12.1 months

Fall rate was 35% lower at 6 months after a single perturbation session



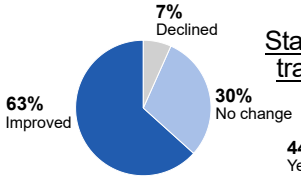
Efficacy is comparable to multi-session lab-based interventions

Dropouts n=6

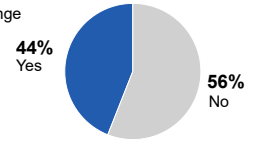
Attenuation at 12 months suggests booster sessions may be needed for long-term retention

Qualitative outcomes

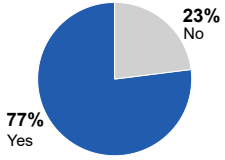
Confidence in walking after training



Started another physical training after the study

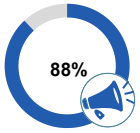


Increased awareness of tripping hazards since training

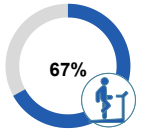


Uptake and Acceptability

Willingness to recommend to others



Willingness to yearly participation



Main barrier: no acute perceived need

Willingness to pay

On average 90 CHF for ~1 hour of training

Acknowledgements

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