

# Sub-sensory vibratory noise augments postural control in older adults

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Researchers from the Harvard affiliated Hebrew SeniorLife Institute for Aging Research (IFAR), have published a recent article in the *Journal of NeuroEngineering and Rehabilitation* which gives evidence that sub-sensory vibrations delivered to the foot sole of older adults significantly augmented the physiologic complexity of postural control and led to improvement in a given mobility assessment.

Researchers came to this conclusion by applying vibrating soles to the feet of 12 healthy adults at various sensory thresholds over the course of three visits. After the vibrations were delivered, [researchers](#) tested postural sway complexity during eyes open and eyes closed standing assessments. They then evaluated mobility using the timed up and go (TUG) assessment. Findings of the study show that [foot](#) sole vibrations at 70 and 85% of sensory threshold increased postural sway complexity. Moreover, these increases correlated with improved TUG times for participants.

When standing, the feet are the only points of contact with the external environment. Therefore, standing postural control is dependent upon the nervous system to detect characteristics of the ground below the foot and deliver that information back to the central nervous system. Vibratory noise increases the sensory input from the foot soles to the postural control system, which leads to greater postural control and improved mobility.

**More information:** Junhong Zhou et al, Sub-sensory vibratory noise

augments the physiologic complexity of postural control in older adults, *Journal of NeuroEngineering and Rehabilitation* (2016). [DOI: 10.1186/s12984-016-0152-7](https://doi.org/10.1186/s12984-016-0152-7)

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