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Hearing AND Balance: Why both are important in the aging population

Falls are a major concern for older adults, with growing evidence linking hearing loss to increased fall risk. A mobile application was developed for question-based falls risk screening and functional assessments of gait, strength, and balance using hearing aid motion sensor data, aligning with the American and British Geriatrics Societies' fall prevention guidelines. While its motion sensor algorithms had been previously validated, these additional studies examined the application's suitability for unsupervised home use and the impact of clinician instruction before independent attempts.

Older adults completed supervised lab assessments and unsupervised home evaluations to compare performance and usability. Findings demonstrated the application's effectiveness in both settings. While early versions initially posed challenges for independent use, formative usability studies and clinician-led demonstrations improved adherence. Results also support the application's potential for remote monitoring of modifiable fall risk factors in hearing aid users, enabling more frequent assessments and timely interventions.