

## **Postural stability: Assessment of auditory input in normal hearing individuals and hearing aid users**

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**Objectives:** To evaluate the effect of auditory input on postural stability for normal hearing subjects and hearing-aid users.

**Background:** Dizziness is the most common complaint of patients over 65 years consulting a physician. Presbycusis affects 65% of Canadians aging 70 to 79. The inner ear is responsible for both hearing and postural stability. However, the interactions between auditory information and the maintenance of postural balance have not been widely studied.

**Methods:** The effect of auditory input on postural stability, as well as the sound localization abilities in normal hearing adults, was assessed with and without the use of earplugs in normal subjects, and in adult hearing users with and without hearing aids. Balance Tests (Romberg on foam and tandem stance) were performed in the presence of a point-source of noise in both groups.

**Results:** Normal individuals balance performance was not affected by the absence of auditory input. However, hearing aid users had a significant improvement in balance with hearing aids on for the Romberg test ( $P = 0.012$ ), and for the Tandem test ( $P = 0.011$ ).

**Conclusion:** Auditory input does not seem to have an effect on postural stability in normal hearing individuals. However, hearing impaired individuals and hearing aid users had a significant improvement in their postural stability in the presence of an auditory input.