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Postural control in blind individuals: A systematic review

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Research highlights

- Structural changes of the cortex can be seen in congenitally blind people.
- Blind people have poor postural control, which may interfere in their activities.
- Posture is altered during gait to compensate for impaired vision.
- More experimental studies focusing on rehabilitation of PC in the blind are needed.

ABSTRACT

Postural control (PC) requires the interaction of the three sensory systems for a good maintenance of the balance, and in blind people, lack of visual input can harm your PC. Thus the objective is to perform a literature review concerning role of sight in the maintenance of PC and the adaptation of brain structures when vision is absent. Studies were searched from Pubmed, and EMBASE that included individuals with congenital blindness. Articles studying person with acquired blindness or low vision was excluded from this review. 26 out of 322 articles were selected for review, and we found that 1) blind individuals exhibit PC deficits and that is compensated by the intensification of the remaining systems; 2) Neuroplastic adaptation occurs throughout the entire cerebral cortex; and 3) Sensorimotor stimulation and transcranial direct current stimulation seem to be a rehabilitation strategy. According to this review, the