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# The development of postural control among children: Repeatability and normative data for computerized dynamic posturography system

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## Abstract

**Background:** The purpose of this study was to investigate the normal development of postural control in children aged 2–18 years in Tehran, and to provide normative data of computerized dynamic posturography (CDP) device variables. **Methods:** The study population included 400 boys and 400 girls aged 2–18 years (eight age groups with 2-year interval) and 100 adults aged 22–25 years. In each age group, 100 people were selected based on the inclusion and exclusion criteria. To evaluate the postural control of the subjects, the sensory organization test (SOT) was performed by using a CDP. **Results:** The results of this study led to the determination and presentation of normative data for the development

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of postural control in boys, girls and children aged 2–18 years. The results related to the repeatability of data produced by the CDP, thereby showing that this system is highly reliable. The results of an independent t-test also showed that girls across all age groups performed better than boys ( $p \leq 0.05$ ). Conclusion: The results of this study demonstrated a nonlinear trend of natural development of postural control. Overall, according to the results of the present study, it seems that like adults, 14–16 year-old teens are capable of processing, integrating and organizing sensory systems information for postural control. © 2020 Elsevier B.V.

#### Author keywords

Children; Proprioception; Vestibular system; Visual system

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