Gait in Children with Attention-Deficit Hyperactivity Disorder in a Dual-Task Paradigm

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Abstract

The aim was to examine gait in school-aged children with attention-deficit hyperactivity disorder (ADHD) and typically developing controls in a dual-task paradigm. Thirty children with ADHD (without or off medication) aged 7–13 years and 28 controls walked without an additional task (single-task walking) and while performing a concurrent cognitive or motor task (dual-task walking). Gait was assessed using GAITRite recordings of spatiotemporal and variability gait parameters. Compared to single-task walking, dual-tasking significantly altered the walking performance of children with and without ADHD, whereby dual-task effects on gait were not different between the two groups. For both children with ADHD and controls, the motor concurrent task had a stronger effect on gait than the cognitive concurrent task. Gait in children with and without ADHD is affected in a dual-task paradigm indicating that walking requires executive functions. Future investigations of children's dual-task walking should account for the type of concurrent tasks.