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Balance Training For Children With Developmental Coordination Disorder

Objective

The study examined how task-specific balance training (TSBT) can assist in the sensory organisation of balance control in children with developmental coordination disorder (DCD). It was conducted and assisted by using **electromyographic biofeedback (EMG BF)** to evaluate the efficacy of a TSBT - functional-movement training, FMT - programme in improving balance deficits in a DCD population.

Results

The study found that a three-month programme of twice-weekly task-specific balance training (in the form of an FMT programme) improves the sensory organisation of balance control in children with DCD by increasing their reliance on somatosensory information for balance as analysed using **EMG BF**.

Participants and Researchers

A controlled trial involving 88 children with DCD.

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Methods

The DCD participants were randomly assigned to either a functional-movement training (FMT) group or to a control group. The FMT group received two training sessions a week for three months.

During training, a **NeuroTrac MyoPlus4** device (Verity Medical) was used to apply **electromyographic biofeedback** to the participant's dominant leg (i.e., the leg used to kick a ball) while standing on a stability trainer.

Measurements of the participants' sensory organisation (somatosensory, vestibular and visual ratios), balance and motor proficiency were taken at baseline, immediately after FMT and three months after FMT. The FMT group showed greater improvements than the control group in somatosensory ratio at three and six months.

The full abstract can be found at <https://pubmed.ncbi.nlm.nih.gov/26864309/>