

ID 428 – Effect of cognitive task on the maintaining of postural stability in patients with type 2 diabetes mellitus and peripheral neuropathy

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Objective: To investigate the effect of cognitive task on the postural stability of patients with type 2 diabetes mellitus and peripheral neuropathy (DPN).

Methods: Thirty DPN patients (aged between 55 and 65 years) and 20 matched controls took part in the investigations. The postural stability was evaluated by static posturography, during upright quiet stance with eyes closed on stable or on foam support without a secondary cognitive task condition and combined with counting backwards in steps of seven aloud or silently.

Results: Stabilizing effect of cognitive task on the postural stability during stance on stable support was observed, while an impaired postural stability during counting aloud than counting silently on foam support were observed.

Conclusions: Results indicate that control of body sway and cognitive functioning are not independent systems and a significant effect of dual cognitive task on the postural stability of patients with DPN are established and related to the difficulty of cognitive task. Count aloud focused attention on preventing errors and together with changing the proprioceptive information during stance on foam support lead to depletion the possibilities to keeping the equilibrium.