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Dubousset Functional Test (DFT): The First Application on Spine Patients and Asymptomatic Volunteers

Introduction: Patient-reported outcome measures (PROMs) and radiographic parameters have advanced our ability to assess patients, but are limited by quantifying patients' perception of disability. Here, we investigate the performance of patients with spinal pathologies and asymptomatic volunteers on the Dubousset Functional Test (DFT).
Methods: This is a prospective, single center, 2-arm study that included asymptomatic volunteers (Norm) and primary patients (Pts) who presented to spine service for evaluation of lumbar degenerative disease and spinal deformity. DFT assesses functional status via 4 components. Each test was scored by time (in seconds) required to finish the test. Pts completed PROMs (EQ5D, ODI, SF12), and Montreal Cognitive Assessment (MoCA). DFT was compared between populations and correlated to PROMs.
Results: 117 subjects were included (51 Pts: 52 years, 66% Females, BMI 25.6; 66 Norm: 41 years, 67%, 28.8). Pts spent significantly more time performing DFT than Norm: UWT (26.8 vs. 14.4 seconds), DTT (21.2 vs. 12.3), DST (10.6 vs. 5.7) and ST (12.1 vs. 6.3), respectively, p<0.05. This held true when controlling for age. In Pts: Mean PROMs were ODI 33.1±17.2, SF12PCS: 34.7±5.5, EQ5D: 0.6±0.2, and MoCa 22.9±3.8. Correlations were observed between UWT, DTT, DST, ST and ODI (R=0.655, 0.429, 0.556, 0.521), SF12PCS (-0.540, -0.356, -0.462, -0.437) and EQ5D (-0.534, -0.328, -0.383, -0.378), respectively, p<0.05. DTT correlated with MoCA scores of cognitive ability (-0.365, p<0.05). Lumbar radiculopathy was associated with increased time to perform the Steps domain: 18.5 vs. 8.5 seconds, p<0.05.
Discussion: DFT is an objective assessment of functionality and can distinguish between healthy subjects and patients with spinal pathologies. Time spent performing DFT domains correlated with established PROMs. Studies are underway to investigate changes in DFT after surgical management of spine pts and the ability to predict complications.