Laryngeal Engagement in Parkinson's Disease: Evidence of Decreased Scaling in Laryngeal and Respiratory Control

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This presentation will describe findings from a study of laryngeal engagement (LE) in Parkinson's Disease (PD). A nonlinear model of translaryngeal air flow was used to characterize the spatiotemporal dynamics of laryngeal/respiratory control of phonatory onset during syllable production /pa/ in a group of individuals with PD and age-matched controls. Compared with normal controls, PD participants exhibited significantly different and aberrant spatiotemporal dynamics of LE, consistent with abnormal scaling of respiratory and laryngeal control. LE measures were significantly correlated with measures of laryngeal mechanosensory detection, as were other measures of speech and voice. These findings demonstrate the value of aerodynamic assessment for examining the spatiotemporal dynamics of laryngeal and respiratory control for speech and voice, and how these important dynamics are disrupted in PD.