



**Title: Effects of Singing on Speech and Swallow in Patients with Parkinson’s Disease**

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**Abstract**

Much research focus has been on motor symptoms of Parkinson’s disease (PD) yet other symptoms, such as impairments in speech and swallow can greatly affect quality of life in these patients. Nearly 75% of individuals with PD have speech and voice impairments, and difficulties in breathing, airway protection and swallowing are the primary factors leading to death in patients with PD. Singing, like speech, is produced by the larynx in conjunction with the respiratory system. However, singing requires greater breath control and is considered to be a more sustained form of speech with greater emphasis placed on rhythm, tempo, and pitch modulation. Singing also recruits many of the same muscles involved in swallow and may increase laryngeal and respiratory muscle strength needed to delay the development of swallow and respiratory complications due to muscle weakness associated with PD. Therefore, singing therapy may achieve the same results as speech therapy while improving swallow.

Thus, the purpose of this study is to examine the effects of group singing on speech and swallow in individuals with PD.