# *Treatment Efficacy Summary*

American Speech-Language Hearing Association

## Dysarthria

## (Neurological Motor Speech Impairment)

Dysarthria is a neurological motor speech impairment characterized by slow, weak, uncoordinated movements of the speech musculature. It results in reduced speech intelligibility and reduced ability to function in communication situations, which can lead to social isolation and depression. Dysarthria can be congenital (e.g., cerebral palsy) or acquired (e.g., Parkinson's disease, brain injury, stroke).

Effectiveness of speech treatment for individuals with dysarthria has been documented via group treatment studies, single-subject studies, and case reports. Study outcomes measure improvements in muscle strength and control, reduction in consonant imprecision, and improved speech intelligibility. Frequently, intervention focuses on specific components of the speech production process. For example, recent reviews suggest that problems with the function of the soft palate can be treated effectively in individuals with traumatic brain injury and stroke.[i] Effective treatments for individuals with problems in respiration or producing an adequate voice have also been reported.[ii] Effectiveness of speech treatment for individuals with Parkinson's disease has recently been most encouraging for intensive treatments focusing on phonation, or the production of vocal sounds.[iii] A variety of augmentative/alternative communication systems provide a functional means of communication for individuals whose natural speech is not understandable.

Information collected from ASHA's National Outcomes Measurement System (NOMS) reveals that outpatient speech-language pathology services are associated with improved intelligibility and communication functioning of patients. The data show that approximately two thirds of adults with diseases of the central nervous system (e.g., Parkinson's, multiple sclerosis) who were unintelligible at the outset of treatment progressed to a level of increased communicative independence and were intelligible to all listeners following speech-language pathology intervention.

The role of the speech-language pathologist is to diagnose the severity of the problem and develop and implement a treatment plan to improve speech. The speech-language pathologist will also coordinate selection and use (via training) of assistive technology. Staging of intervention is also crucial, particularly for degenerative diseases such as amyotrophic lateral sclerosis, because such diseases frequently progress through a series of stages from mild speech impairment to loss of vocal ability.

**Contributor:**

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[i] Yorkston, K. M., Spencer, K. A., Duffy, J. R., Beukelman, D. R., Golper, L. A., Miller, R. M., Strand, E. A., & Sullivan, M. (2001). Evidence-based medicine and practice guidelines: Application to the field of speech-language pathology. *Journal of Medical Speech-Language Pathology*, 9(4), 243–256.

[ii] Yorkston, K. M., Spencer, K. A., Duffy, J. R., Beukelman, D. R., Golper, L. A., Miller, R. M., Strand, E. A., & Sullivan, M. (2001). Evidence-based practice guidelines for dysarthria: Management of velopharyngeal function. *Journal of Medical Speech-Language Pathology*, 9(4), 257–273.

[iii] Spencer, K. A., Yorkston, K. M., & Duffy, J. R. (in press, June 2003). Behavioral management of respiratory/phonatory dysfunction from dysarthria: A flowchart for guidance in clinical decision-making. *Journal of Medical Speech-Language Pathology*.



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