

# **Treatment of lexical stress, segmentation, and sound distortions in childhood apraxia of speech**

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## **ABSTRACT**

**Rationale:** Childhood apraxia of speech (CAS) is a motor speech disorder characterized by distorted phonemes, segmentation (increased segment and inter-segment durations), and impaired prosody. A handful of studies demonstrate positive treatment effects using an approach known as Rapid Syllable Transition (ReST). These studies documented improvement in selected perceptual and acoustic measures.

**Methods:** This study investigated the efficacy of ReST for CAS with comparison to a delayed treatment group. Nine children (ages 5-8) received four weeks of intervention, four days a week. Experimental probes included baseline and post-treatment (immediately and one-month after treatment) for treated and untreated stimuli and real words.

**Results:** We will present data from the nine participants. Preliminary data from one participant demonstrated significant improvement of perceptual and acoustic measures of segmentation and sound distortions with moderate to large effect sizes. Stress did not change significantly because it was relatively intact at treatment onset.

**Discussion:** These results support the demonstrated early efficacy of this intervention in improving distortions, segmentation, and lexical stress in children with CAS. Acoustic measures of lexical stress, segmentation, and voicing distortions support perceptual measures of treatment efficacy in improving these core features of CAS.