

Title: Effect of sentence length on intelligibility and speech motor performance in ALS

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The purpose of this study was to determine the effect of sentence length on intelligibility and speech motor performance for speakers with ALS at different severity levels. Intelligibility, speaking rate, and speech pausing variables were measured from recorded productions of 5-15 word sentences from the Sentence Intelligibility Test (SIT). Results showed that sentence length affected speakers' intelligibility, speaking rate, and speech pausing behavior, but that effects differed by severity group. Increased sentence length only had a detrimental impact on intelligibility for speakers with more severe dysarthria, but was associated with slowed speaking rate in speakers with ALS at all severity levels. Speech pausing measures suggested that increasing sentence length taxed the speech motor systems of people with ALS who are exhibiting dysarthria symptoms more than those who have no detectable dysarthria. Findings have important potential implications for maximizing efficacy of compensatory speech strategies through control of utterance length.