

## Can IOPI Be Used to Measure Tongue Pressure for Speech Sounds?

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Tongue pressure during speech is of great interest to researchers of normal and disordered speakers. Currently, the best devices for measuring tongue pressure during speech require implantation of transducers into palatal appliances constructed for each subject and are not practical for clinical use. The Iowa Oral Performance Instrument (IOPI) is a less expensive device for measuring tongue pressure. However, the size of the IOPI bulb interferes with normal articulation of alveolar consonants. Using normal and disordered speakers, we attempt to determine the feasibility of measuring articulatory contact pressure with IOPI. For individuals with oculopharyngeal muscular dystrophy, a disorder characterized by muscle cell loss in the tongue, maximal tongue pressures were substantially reduced compared to age- and gender-matched controls. However, they generated similar peak tongue pressures during production of the phoneme /d/. A more detailed investigation of normal speakers is currently underway to ascertain if values obtained by IOPI are similar to those achieved by other transducers (e.g., those obtained by Searl and his colleagues) and to determine the best syllable contexts and practice methods for obtaining speech pressure data using IOPI.