

## DIFFERENCES IN OCCURRENCE OF GLOTTAL STOPS IN VOICED AND UNVOICED PLOSIVE CONSONANTS IN SPEAKERS WITH CLEFT PALATE SPEECH

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**PURPOSE:** This study investigated occurrence of correct consonant productions and glottal stops in voiced and unvoiced stops produced by speakers with operated CLP. **METHODS:** A total of 696 productions of the targets /p,b,t,d,k,g/ recorded during phrase repetition by a group of 41 individuals with operated cleft lip and palate were analyzed in this study. Three speech-language pathologists (SLPs) individually judged all target sounds for each phrase yielding a total 2.088 ratings of consonant production identified as correct production, glottal stop or other production. **RESULTS:** The SLPs identified correct consonant productions in 79% and the use of glottal stops in 20% of the recordings analyzed. Agreement among SLPs during ratings was good. More specifically, for the unvoiced plosives, the glottal stop was identified during 29% of the /p/ targets, 26% of the /t/ targets, and 31% of the /k/ targets. For the voiced plosives, the glottal stop was identified during 6% of the /b/ targets, 15% of the /d/ targets, and 16% of the /g/ targets. When comparing the minimal pairs, identification of the glottal place of production was always higher during production of unvoiced plosives. Chi-Square Test revealed statically significant differences between voiced and unvoiced stops sounds (/p,b/ =  $p < 0.001$ ; /t,d/ =  $p < 0.001$ ; /k,g/ =  $p < 0.001$ ). **CONCLUSION:** Results from this study suggested that unvoiced stop sounds favor the occurrence of glottal stops, as identified perceptually, probably due to the higher pressure involved in these productions.