

# CHEEK FORCE: A DEVICE FOR QUANTITATIVE EVALUATION

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**Abstract.** Inadequate force of the cheeks may compromise the tooth positioning and functions such as chewing, swallowing and contribute to aesthetic deformities on the face in humans. In clinical speech-language pathology practice, cheeks force is usually evaluated qualitatively. Perception and practical experience are used to grade them. This paper aims to present a new method for the quantitative evaluation of cheeks force in humans. A prototype was developed based on the principles and tools of Production Engineering Products, and used in the present work. Five individuals were evaluated, ranging between 18 and 35 years old, males, normal with regard to the cheeks force by a perceptual evaluation. The average values of the average force was 5,64 N and the maximum force was 7,76 N. The subjects evaluated demonstrated force values with coefficient of variation considered low (11%). Quantitative evaluation can reduce the subjectivity and increases the probability of proper diagnosis of the cheeks force, especially in cases of slight changes in force, and moreover it is more sensitive for detecting small differences in strength observed with the progression of disease or therapy. The cheek force was quantitatively evaluated through the device developed (which is still in testing phase) and further studies are planned. This device might contribute to the completion the diagnosis process and treatment of changes the structure in question.