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Lip adaptation to simulated dental arch expansion. Part 1: Reliability and precision of two lip pressure measurement mechanisms

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ABSTRACT

Understanding the influence of lip and tongue pressure on tooth position requires a reliable method of measuring pressure. A transducer with a beam mechanism has been used extensively in the past. A transducer with a diaphragm mechanism has been recently introduced. Comparative in-vivo tests of these transducers have not been published. The purpose of this study was to investigate transducer reliability and precision. Transducers were placed intraorally in 22 subjects, and two lip pressure measurements were recorded. Paired *t*-tests and interclass correlations were used to evaluate repeatability and reliability. The error of the method was analyzed for each transducer type. Both transducer types produced measurements that were repeatable and reliable. The error was smaller for the diaphragm transducer. The diaphragm transducer is more precise.

KEY WORDS: Lip pressure, Reliability, Precision, Repeatability.

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