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Paper Title:	Grip Force Response to Oral Electrical Stimulation: Toward Acquisition of Anxiety and Fear in Dental Procedures
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#### Abstract

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Anxiety and fear related to dental care are significant factors that contribute to avoidance behavior toward dental visits. Dental phobia, a specific form of this fear, manifests as various symptoms in patients. Dental Anxiety Scale, Modified Dental Anxiety Scale, and Visual Analogue Scale are commonly used to assess the level of dental fear. However, these tools rely on subjective self-reports, making it challenging to quantitatively assess anxiety in another person. We believe that fear during dental procedures affects grip force. Therefore, we developed a rod-shaped device to measure it. In this paper, we define "grip force" as the continuous grasp force during a specific period. The device comprises pressure sensors, a microcomputer, an analog multiplexer, and a portable battery. We experimented to evaluate the relationships between the grip force and electrical stimulation of the oral cavity with 32 participants. By dividing the series of grip force data into three equal intervals and comparing the median of each interval, it was found that although there were individual differences in the change in grip force, it could be divided into five groups, including an upward and a downward trend.

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