

Orthodontic Jaw Bracket

Intelligent bracket technology for mild and efficient orthodontic treatment through the measurement of localized force and torque

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Technology

Pain and pressure sensations arising during orthodontic treatment due to force and torque are usually gauged by the attending dentist while considering a patient's inherent pain tolerance. By means of a bracket-integrated capacitive sensor unit, forces and pressure acting on individual teeth can be rapidly and reliably determined. Measured values are read through a counter-contact on the bracket, or in a contactless manner, with the assistance of a special orthodontic instrument. Measured changes allow the calculation of the necessary readjustments for successful tooth positioning, which results in an efficient, cost-effective and non-traumatic ongoing treatment. In addition, the measurement and acquisition of data relating to time dependent changes leads to better appraisal of the necessary readjustments, and correspondingly, to a reduction in treatment times and costs.

Innovation

- Dependable, objective determination of forces, pressure and / or torsion forces acting on individual teeth
- Achievement of an efficient and potentially non-traumatic treatment
- Observation of measurement changes permits patient-specific evaluation of the malleability and plasticity of the jaw-bone scaffold and tissue → increase in the effectiveness of treatment

Application

- In biomechanical research
- In orthodontic training as an objective feedback module
- In clinical therapy

Market Potential

- Metal brackets belong to standard therapy within orthodontics

Branch

Medical engineering, Dental Medicine

Patent Status

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