

## **Clinical performance of cast clasp-retained removable partial dentures: a retrospective study.**

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### **Abstract**

**Purpose:** This retrospective study investigated the survival rate of 174 clasp-retained removable partial dentures (CR-RPDs) made at the Department of Prosthodontics of the Regensburg University Medical Center over a 25-year period (1984 to 2009). **Materials and Methods:** The study analyzed the frequency of and time to the fracture of clasps, connectors, or denture bases; the occurrence of caries or periodontal lesions; the loss of abutment teeth; and the necessity of maintenance procedures such as relining or treatment of pressure areas. **Results:** The median follow-up time of 3 years was calculated using the inverse Kaplan-Meier method. The 5-year survival rate (time to renewal) of all CR-RPDs was 96.4%; the 10-year survival rate was 89.8%. Fractures most frequently occurred in clasps ( $n = 28$ , 16.1%) followed by major connectors ( $n = 9$ , 5.1%) and minor connectors ( $n = 6$ , 3.4%). The 5-year event-free rate for clasp fracture was 80.4%; the 10-year event-free rate was 76.9%. Caries lesions on abutment teeth were seen in 31.6% of patients, and 35.6% showed inflammation of the periodontal tissue surrounding the abutment teeth. The 5-year event-free rate for caries was 58.4%; the 10-year rate was 39.6%. A frequent complication was loss of abutment teeth ( $n = 15$ ), but this complication was not age-dependent. After insertion of their prostheses, one-third of patients ( $n = 53$ , 30.5%) showed pressure areas of the mucosa. Significantly more ( $P < .001$ ) pressure areas were caused by prostheses of the mandible (39.6%) than by those of the maxilla (12.5%). **Conclusions:** CR-RPDs showed a survival rate of approximately 90% after 10 years of oral service. The predominant complications during oral service were caries lesions, loss of abutment teeth, and fracture of clasps.