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[Intervention Review]

# Interventions for replacing missing teeth: partially absent dentition

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## ABSTRACT

### Background

Management of individuals presenting with partial loss of teeth is a common task for dentists. Outcomes important to the management of missing teeth in the partially absent dentition should be systematically summarized. This review recognizes both the challenges associated with such a summarization and the critical nature of the information for patients.

### Objectives

To assess the effects of different prostheses for the treatment of partially absent dentition in terms of the following outcomes: long-term success, function, morbidity and patient satisfaction.

### Search methods

We searched the Cochrane Oral Health Group's Trials Register (to 21 March 2011), the Cochrane Central Register of Controlled Trials (CENTRAL) (*The Cochrane Library* 2011, Issue 1), MEDLINE via OVID (1950 to March 2011) and EMBASE via OVID (1980 to March 2011). There were no restrictions regarding language or date of publication. We contacted several authors to identify non-published trials.

### Selection criteria

Randomized controlled trials (RCTs) comparing different methods (including the design and materials used) of treating partial edentulism, with clinically relevant outcomes, were included in this review. Trials reporting only surrogate outcomes, such as plaque accumulation or gingival volume, were excluded from this review.

### Data collection and analysis

Two review authors independently carried out the screening of eligible studies, assessment of dimensions of quality of trials, and data extraction. Results were expressed as mean differences for continuous data, risk ratios for dichotomous outcomes, and hazard ratios with 95% confidence intervals for time-to-event data.

## **Main results**

Twenty-one trials met the inclusion criteria for this review. Twenty-four per cent of these were assessed as being at high risk of bias and the remainder were at unclear risk of bias. The clinical heterogeneity among the included studies precluded any attempt at meta-analysis. There was insufficient evidence to determine whether one type of removable dental prosthesis (RDP) was better or worse than another. With fixed dental prostheses (FDPs), there was no evidence that high gold alloys are better or worse than other alloys, nor that gold alloys or frameworks are better or worse than titanium. There is insufficient evidence to determine whether zirconia is better or worse than other FDP materials, that ceramic abutments are better or worse than titanium, or that one cement was better or worse than another in retaining FDPs. There is insufficient evidence to determine the relative effectiveness of FDPs and RDPs in patients with shortened dental arch or to determine the relative advantages of implant supported FDPs versus tooth/implant supported FDPs.

## **Authors' conclusions**

Based on trials meeting the inclusion criteria for this review, there is insufficient evidence to recommend a particular method of tooth replacement for partially edentulous patients.

## **PLAIN LANGUAGE SUMMARY**

### **Interventions for replacing missing teeth: partially absent dentition**

Methods for treating patients with some missing teeth.

Patients with some missing teeth have several treatment options available to them. They need to know what the treatment options are, how much they cost and how long they can be expected to last. This review compares the options available which includes combinations of fixed and removable dentures, bridges and implants. Although there were 21 trials included in this review, there were so many variations in the types of these interventions that it is not possible to determine which are effective replacements for missing teeth in terms of durability, function, comfort and appearance. The trials also failed to report comparisons between the costs of different treatments or any possible harms.