



# A Retrospective Clinical Study on the Longevity of Gold Inlays

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## INTRODUCTION & AIM

Although advances in adhesive technique and escalation in aesthetic demands have increased indications for tooth-coloured restoration, it is important that dentists do not forget the value of gold as an alternative restorative material. The aim of the present study was therefore to investigate the longevity and reasons for failure of posterior Class-II gold cast restoration among a group of Norwegian adults in a private practice.

## MATERIAL AND METHODS

A cohort of 138 patients (81 male and 57 female) attending a general, private practice for regular check-up were examined by one clinician (GS) in 2016.

The patients had a total of 391 posterior Class II gold inlays placed in the period from 1970 to 2015.

The inlays were categorized as acceptable or failed based on clinical and radiological examination.



**Figure 1** Gold inlays

Information on the longevity and reasons for failures was collected from the patient records, and classified as either “secondary caries”, “fracture”, “lost inlay” or “other”.

Participation was voluntary and no compensation was given. The implementation was approved by the Regional Committee for Medical Research Ethics in Norway (ID: 2015/1324).

## CONCLUSION

The present retrospective clinical study demonstrated a low annual failure rate of Class II gold inlays. Thus, gold inlays can still be considered as a good treatment option in posterior teeth for certain patients.

## RESULTS

The mean age of the patients at placement of the inlays was 50.8 years (SD: 12.7yr).

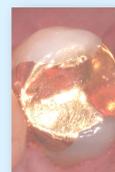
**N=391 gold inlays**



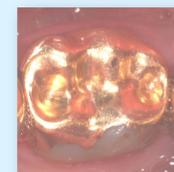
32 %



68 %



14 %



86 %

Average length of follow-up was 11.6 years (range: 1-46 years, SD: 7.9); 93.4% were classified as successful and 6.4% as failed. Reasons for failure were secondary caries (41.3%), lost inlay (25.4%), fractures (23.8%) and other (9.5%).

Mean annual failure rate (AFR) of the inlays was 0.57% during the timespan from 1970 to 2015.

Time	Failure rate	95% CI
<b>3 years</b>	0.99	0.98-1.00
<b>5 years</b>	0.98	0.96-1.00
<b>7 years</b>	0.97	0.95-0.99
<b>10 years</b>	0.95	0.92-0.98
<b>18 years</b>	0.88	0.80-0.96

**Table 1** Empirical failure rates calculated using Kaplan-Meier statistics