

Lack of reliable clinical evidence for or against direct and indirect veneers

When patients' anterior teeth are stained, is direct or indirect veneer restoration most effective?

Wakiaga J, Brunton P, Silikas N, Glenny AM. *Direct versus indirect veneer restorations for intrinsic dental stains (Cochrane Review).* *Cochrane Library* 2003; Issue 4. Chichester: John Wiley

Data sources Sources were the Cochrane Oral Health Group's Trials Register, Cochrane Central Register of Controlled Trials, issue 3 of the 2002 Cochrane Library, and Medline and Embase (both from 1980 to 19 November 2002). There was no restriction on publication language.

Study selection Studies were randomised controlled trials including participants who had permanent anterior teeth suitable for restorations using laminate veneers, and which compared direct (different composite materials) and indirect techniques for making dental veneers. The indirect restorations were either composite or porcelain. The primary outcome was restoration failure.

Data extraction and synthesis Assessment of relevance and validity and data extraction were conducted in triplicate. Authors of the primary studies were contacted to provide additional information as necessary.

Results Only one trial met the review's inclusion criteria for participant characteristics, interventions and outcomes assessed but, even then, problems with the reporting of the data prevented any statistical analysis of the results.

Conclusions There is no reliable evidence to show a benefit of one type of veneer restoration (direct or indirect) over the other with regard to the longevity of the restoration.

Commentary

The early research on acid-etching of enamel from 1955, and its clinical application in the late 1960s when resin composites became available, has enabled practitioners to adopt a more conservative approach to aesthetic dentistry. One such example is the veneering of discoloured anterior teeth using either preformed porcelain or resin composite cemented to the etched enamel with a resin composite luting cement (direct technique), or using unset resin composite placed on etched enamel and cured *in situ* (indirect technique).

The concept of "most effective" embraces several factors, not just that of failure. Other factors to be considered include aesthetic outcome, degree of hard tissue destruction, cost, the number and duration of appointments, and reparability. The authors have appropriately discussed aesthetics in the context of intention-to-treat and noted that the results may therefore be biased. There is, however, little consideration of the other factors.

Given that a very large number of veneers must be placed, it is surprising that only one study met the reviewers' inclusion criteria, and even that did not report statistical analyses. Adhesive dentistry demands a comprehensive knowledge of the substrates and materials involved, and also an exacting technique. To this extent, the results acquired from one paper will probably be lacking in external validity. Indeed, because of the number of potential variables in veneering (eg, dentist's skill, materials used, hard tissue substrate, occlusion, degree of tooth discoloration, cavity design, outcome criteria), a definitive answer to which type of veneer restoration is most effective may never be possible.

Practice point

- Patients should be advised that there is no 'best' type of veneer.

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