

Bridge design, part five: selection of abutments as retainers in bridgework

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Following his look at aesthetic enhancement for bridge restorations, Paul Tipton looks at the use of abutments in bridgework

Roberts (1970) looked at the success rates of individual retainers when used as either minor retainers (anterior abutment in a fixed-movable bridge) (Figure 1), or major retainers (to which the pontic is rigidly joined) (Figure 2).

Retentive demands made on minor retainers are far less than for major retainers and therefore more conservative tooth preparation is often possible. However, should the minor retainer become uncemented the effects are far more severe than if the major retainer in a fixed-movable bridge fails. In the latter case, the major retainer falls out complete with pontic, and the patient immediately attends for treatment. The minor retainer, however, is held in place by the fixed/movable joint and should it become uncemented, caries will rapidly occur underneath it, often with catastrophic results.

MINOR RETAINERS

The most retentive preparation is the full crown, but as previously mentioned in fixed/movable bridgework, the retentive demands on the minor retainer are less.

The three-quarter crown is therefore an ideal minor retainer (Figure 3), especially in the posterior region having a success rate similar to the full crown (Roberts 1970) and more importantly is a much less invasive style of tooth preparation and one which is greatly under-used by most dentists (Khan 1960).

The three-quarter crown also allows easier cementation and testing tooth vitality is more easy and predictable with the partial rather than the full crown (Khan 1960). However, in some cases where a display of gold may

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Figure 1: Fixed-movable bridge



Figure 2: Fixed-fixed bridge

be unacceptable to a patient (Figures 4 and 5) Roberts suggested that an MOD inlay might be satisfactory,

Figure 3: Three-quarter gold crown as a minor retainer in mandible

