

Technique Tips

Temporary Adhesive Bridges

Temporary adhesive bridges (TABs) are a short-term fixed solution for missing teeth in the aesthetic zone. They are commonly used for patients who are unwilling or unable to wear a denture or maintain an edentulous space, prior to definitive tooth replacement.

TABs are predominantly recommended for the cosmetic replacement of one or two teeth. They are commonly provided for three to six months, although in many cases the authors have successfully used temporary bridges for more than 12 months. TABs can be used with or without the Dahl concept.¹

The authors recommend the use of Rochette style retainers (wings)² with a 0.7–1.0 mm thickness perforated nickel chromium wing used on either side of the pontic(s) with full lingual or palatal coverage. The exact amount of occlusal, palatal and/or lingual coverage of the abutment teeth depends on the inter-occlusal space available and the choice of the occlusal scheme, ie using the Dahl concept, reorganizing the occlusion, or conforming to the occlusion (Figures 1–4). For TABs, the authors do not recommend preparation of abutment teeth or use of a rubber dam. A single cantilevered pontic and wing should be avoided for temporary bridges as these tend to debond unpredictably with the use of non-definitive cements.³ This contrasts to the authors' preference for cantilevered bridges with a single wing in definitive adhesive bridges.⁴ However, wings on both sides of the pontic(s) are unfeasible if an adjacent tooth is compromised or has a crown. In such cases, two wings can be used with a cantilevered pontic, ie double-abutting the retainers (Figure 5).

For the cementation phase, the authors recommend the use of 37% ortho-phosphoric acid etching of the abutment teeth, sandblasting of the wings with 50 µm aluminium oxide and cementation with a resin-modified glass ionomer cement (RMGIC) on both wings. Where the quality or the quantity of the available bonding surface on an abutment tooth is compromised, a combination of a RMGIC can be used on one wing with a definitive cement on the other wing. The patient needs to be provided



Figure 1. A mid-labial deep pocket due to a root fracture of the UR1.



Figure 2. A three-unit TAB on the working cast. The TAB is to be placed using the Dahl concept due to a lack of inter-occlusal space between the UL1, UR2 and their antagonists. The laboratory prescription required removal of the UR1 on the cast similar to fabrication of an immediate denture.

with clear instructions to contact the dentist if he/she feels any sudden mobility of the bridge. This is indicative of debonding of one of the wings. If this occurs, it will inevitably occur on the abutment tooth with the poorest quantity and/or quality of bonding surface. Alternatively, if one wing is cemented with a RMGIC and one wing cemented with a definitive cement, then the debonding will occur on the former. Either situation has rarely been encountered by the authors and can be easily remedied as outlined below.

The purpose of the bridge design is to facilitate easy removal and replacement several times. For example, it is common for a TAB to be placed immediately after tooth extraction. This can then be removed to allow



Figure 3. Immediately after removal of the UR1 and placement of the TAB.



Figure 4. The TAB on UR1 after 6 months of function. Note the soft tissue defect apical to the UR1 pontic.



Figure 5. A TAB replacing UL4. The retainers were placed on UL2 and UL3 because UL5 was root-filled and had a definitive crown.



Figure 6. Removal of the TAB from Figure 5 with a floss ligature to prevent aspiration or inhalation. Note the discoloured cement at the gingival margins where bleeding from the extraction site compromised the bonding. Despite this, the bridge did not suffer unplanned debonding.

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Figure 7. Two TABs replacing UR2, UL2 and UL3 were removed and the intaglio surfaces of the pontics were reduced to allow healing abutments to be placed on the three implants. The bridges were then recemented. This photograph was taken after two weeks, just prior to suture removal.

implant placement with or without bone grafting. Subsequently, the bridge can then be removed for implant impressions, implant crown try-in and definitive crown-fitting.

For removal of the bridge, or removal of a single remaining wing, in the case of a partial debonding, the authors recommend



Figure 8. After removal of a three-unit TAB abutted on UR2 and UL1. The bullet-shaped composite pontic was used to develop the soft tissue profile for the UR1 whilst the UR1 implant was osseointegrating.

the use of a combination of sandblasting, ultrasonic scaling and mechanical torquing with a conservation instrument. It is mandatory to protect the airway with gauze and secure the temporary bridge with floss (Figure 6). This may require a small amount of local anaesthesia.

The remaining cement should be removed from the tooth using a sandblaster and/or a composite polishing bur. If the TAB is to be re-used, the intaglio surface of the bridge should be re-sandblasted, and the abutment

teeth should be re-etched to confirm that no cement is retained.

The authors recommend that the pontic is a laboratory made composite for good cosmetics and to allow for easy addition and subtraction. Thus, the intaglio surface of the pontic may be reduced to allow space for a healing abutment during implant treatment (Figure 7). Alternatively, addition of direct composite may be required to guide soft tissue healing in an extraction site to improve soft tissue aesthetics around the fixed final prosthesis (Figure 8).

Declaration

The authors declare no conflicts of interest.

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