

IMMEDIATE RESIN-BONDED BRIDGES IN THE DIGITAL ERA: THE ADVANTAGES AND LIMITATIONS

Keywords: Resin-bonded bridge

Introduction:

Periodontitis is a common cause of anterior tooth loss. Immediate replacement with natural looking prostheses is usually required to prevent psycho-social impacts, functional impairment and untoward tooth movement. Constructing immediate prostheses in the aesthetic zone poses challenges. Preventing further tooth loss is also imperative. Immediate resin-bonded bridges (RBBs) can be suitable treatments and digital dentistry can help provide more predictable outcomes.

Case description:

Case 1: 48 year old with Generalised Periodontitis, Stage IV Grade C. UR1-UR2 extraction required. UL1 Grade 1 mobile. Fixed-fixed immediate RBB with metal framework provided, replacing UR1-UR2 and splinting UL1. Case review at 6 & 24 months showed no changes.

Case 2: 58 year old with Generalised Periodontitis, Stage IV Grade C. UL1 was missing. UR2, UR1, UL2 required extraction. Fixed-fixed immediate RBB provided, replacing UR2-UL2. Case review at 3 months, 1 year and 5 years; bridge deemed successful.

Discussion:

Tooth loss can create unaesthetic spacing, drifting and increase functional loads on other teeth. Options for replacement include; interim/immediate acrylic partial dentures, fibre-reinforced composite bridges, RBBs and retainers with tooth replacement. The most commonly provided prosthesis are acrylic dentures. But retention concerns, unsightly clasps, bulkiness and night-time removal can cause dissatisfaction. Additionally, dentures may increase plaque retention and cause mucosal trauma, increasing periodontal and bony destruction. Immediate RBBs, although technique sensitive in cementation, can be suitable fixed alternatives. Additionally, in some cases acceptance is better, cleansability easier and abutment splinting may reduce mobility and improve comfort.

Digital techniques help overcome treatment limitations. Digital mock-ups allow provisional aesthetic assessments and alterations pre-extraction; improving patient understanding, consent and satisfaction. Digital impressions are beneficial for mobile teeth; tooth displacement doesn't occur which can cause discomfort and impression inaccuracies. Photographs help technicians understand existing soft tissue architecture, smile line and overall dentition aesthetics; aiding the creation high quality prosthesis.