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Splint-Transfer Technique in Achieving Passive Fit on Implant

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ABSTRACT

Passive fit is of paramount importance to avoid loading stresses on implant-supported fixed partial dentures. Auto-polymerizing acrylic resin is a common splinting material used in impression taking but its high polymerization shrinkage may adversely affect the accurate positioning of implant analog in master cast. This case report describes a modified splinted impression technique to minimize the risk of auto-polymerizing acrylic resin shrinkage. A 60-year-old woman had implant therapy to replace her missing left mandibular teeth. She presented with mandibular partial dentate. 3 units of implant-supported fixed partial dentures were proposed to replace the missing teeth 34-37. After implant placements at edentulous region of 34 and 36, implant level impression was taken to fabricate a working cast containing implant analogs. Appropriate multi-unit abutments together with abutment-level impression posts were attached on implant analogs. A connecting bar with C-shape ring at mesial and distal end was custom made to splint both impression posts. C-shape ring of connecting bar at the distal end was initially joined with auto-polymerizing resin extra-orally. Prior to taking abutment-level impression, multi-unit abutments together with impression posts and the connecting bar were transferred and attached onto the 2 implants at edentulous region of 34 and 36 followed by joining of the C-shape ring at the mesial end with auto polymerizing acrylic resin. Ceramo-metal fixed partial denture was fabricated on the abutment-level working cast with a preliminary try-in of the cast metal framework. Passive fit of fixed partial denture was verified clinically and radiographically. This technique managed to establish an optimal implant analog position in the master cast and achieved passive fit on implant-supported fixed partial denture

Keywords: splint-transfer, passive fit, implant