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Pulpal evaluation of teeth restored with fixed prostheses

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Abstract

The literature demonstrates that each of the elements of crown fabrication involves possible and probable insult to the pulpal tissues of the tooth. Preparation of the tooth can result in pulpal inflammation or even burn lesions. The impression technique can result in reduction of the odontoblastic layer caused by drying of the dentin. Temporary coverage of the preparation involves the use of self-curing resins and temporary cements, both of which can irritate the pulp. The final restoration is attached with cements that are often implicated in pulpal irritation. Dental caries and the procedures necessary to remove it and restore the tooth before preparation for a fixed prosthesis can injure the pulp. This study was done to evaluate the effects of complete coverage fixed prosthetic restorations on the dental pulp. A recall letter was mailed to 1221 patients who had received a fixed partial denture or single crown during the years 1984-1988. One hundred thirty patients were examined. Each tooth was evaluated for pulpal health, periodontal integrity, and clinical acceptability of the restoration. Of the 603 teeth examined, 166 had undergone root canal therapy before placement of the restoration, leaving 437 that were crowned while vital. Of these, 25 (5.7%) were in need of root canal therapy or had undergone root canal therapy after cementation of the fixed prosthesis.