

Conservative Interim Restoration for a Root Canal-Treated Permanent Molar in Pediatric Patients

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Introduction

Introduction: For root canal treated molars in children, it is the gold standard to place a full coverage restoration such as a stainless steel crown. However, in situations where there is not enough remaining tooth structure, a more conservative treatment is required. An alternative is reducing the occlusal, placing a glass ionomer build up and an Orthodontic band as a temporary reinforcement before permanent crown placement.

Case

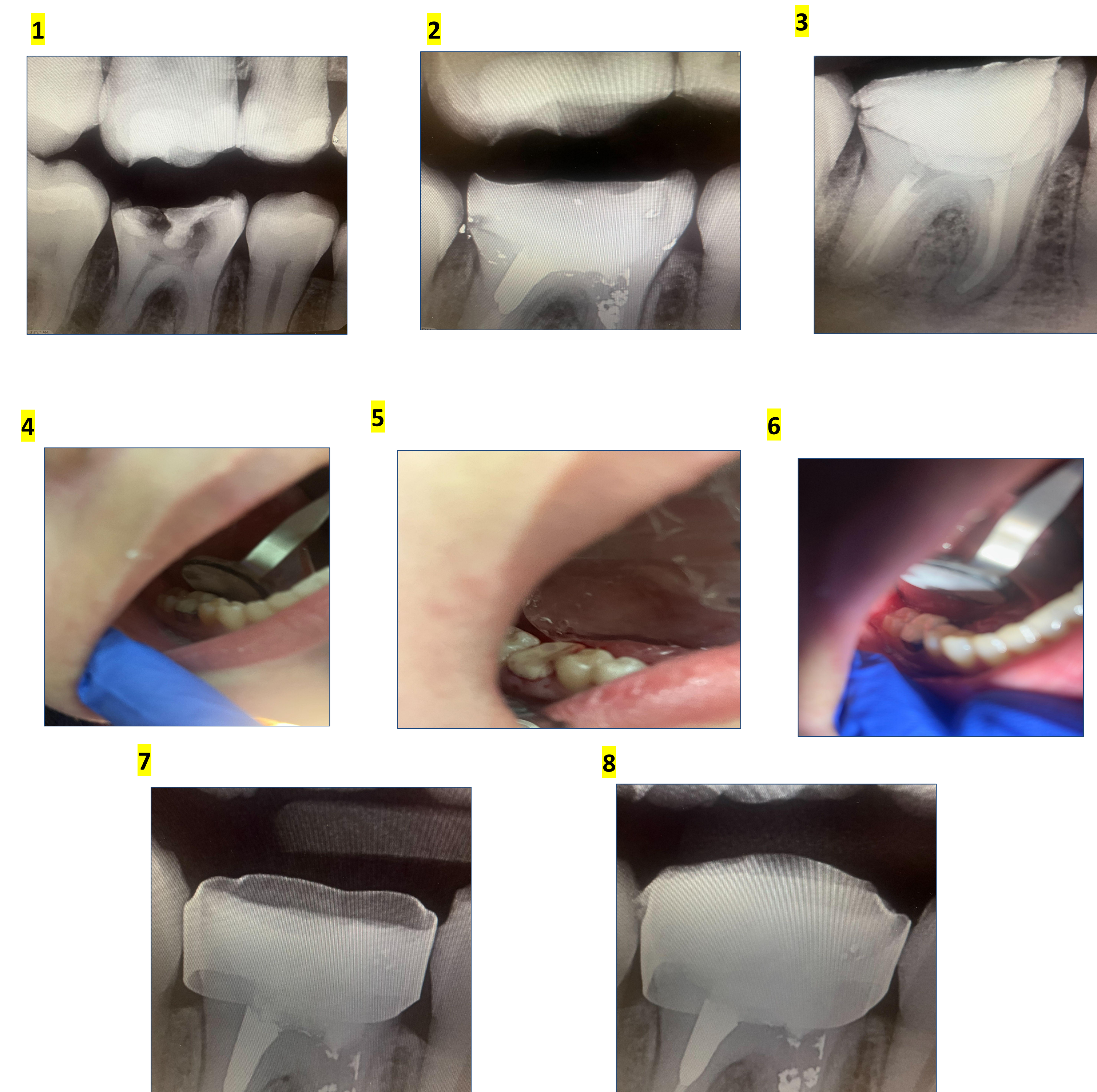
- 15 year and 7 months old female patient.
- No significant medical history
- No medications
- No allergies
- Presents to the UNLV Pediatric Dental Clinic with localized pain on tooth #30.
- Chief Complaint: “My lower right molar is broken down to the gumline and I have been sensitive to cold water and biting”
- #30 broke off a few weeks prior and was prescribed Amoxicillin to clear the swelling before being referred to the UNLV Pediatric Dental clinic..
- Upon clinical examination, #30 was fractured down to the buccal gumline with large amounts of primary decay and visible pulp.
- Vitality testing indicated diagnosis(s) of Symptomatic Irreversible Pulpitis and Symptomatic Apical Periodontitis.
- Root Canal Therapy was elected to save the tooth.
- Root Canal Therapy was completed by a 4th year Dental student
- GI core build up was placed after Root canal therapy.

Methods

- Patient returned to UNLV Pediatric Dentistry to have a full coverage restoration placed(i.e. Adult stainless steel crown)
- Following Root canal therapy it was noted that there was no longer much natural structure to prep; due to this, a more conservative treatment was elected.
- Occlusal Surface was reduced by 1.5 mm
- #6 round bur was used to to add retention grooves.
- A size 36 ½ Ortho band was placed on #30 followed by a Fuji II(RMGI) build up.
- This approach conserved more natural tooth structure for a future permanent restoration.

Discussion

Placing orthodontic bands with a glass ionomer build-up on endodontically treated molars in pediatric patients is advantageous because it provides full circumferential reinforcement to teeth that are structurally weakened after pulp therapy. Following pulpotomy or pulpectomy, primary molars often have significant loss of tooth structure and are more susceptible to fracture under masticatory forces. An orthodontic band distributes occlusal stress around the entire crown, reducing the risk of cuspal fracture, while the glass ionomer build-up restores occlusal anatomy and provides chemical adhesion to enamel and dentin. Additionally, glass ionomer releases fluoride, which may help reduce recurrent caries risk at the margins—an important consideration in high-caries-risk pediatric populations. This combination offers a conservative, cost-effective alternative to full coverage restorations, maintains arch integrity, and is particularly useful when moisture control or patient cooperation limits placement of more technique-sensitive restorations.



References. Orellana, Carla & Perez, Vidal. (2017). Modified glass ionomer and orthodontic band: An interim alternative for the treatment of molar incisor hypomineralization. A case report.. *Journal of Oral Research*, 6, 70-74. <https://doi.org/10.17126/joralres.2017.018>.

Orellana, C., & Pérez, V. (2017). Modified glass ionomer and orthodontic band: An interim alternative for the treatment of molar incisor hypomineralization. A case report. *Journal of Oral Research*, 6(3), 70-74. <https://doi.org/10.17126/joralres.2017.018>

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