

Crown Fracture of an Unerupted Incisor in a 7-year old Child: Case Report and Restorative Considerations

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Introduction: Crown fractures are a concern in pediatric dentistry considering the negative impact on oral health-related quality of life of children and adolescents. The advance of adhesive dentistry associated with dental digital techniques enables the improvement of minimally invasive approaches providing outstanding aesthetic results.

Case report: This case report describes a restorative crown-fracture protocol of an unerupted permanent upper incisor in childhood. The treatment strategy involved clinical and radiographic monitoring emphasized on the observation of the eruptive process and root formation of the upper central incisors. The rehabilitation process was obtained by a minimally invasive approach based on the twin sister identical dental anatomy scanning by CAD/CAM system and resin stratification technique using a silicone index guide. The treatment option was effective from the perspective of continued root development, pulp vitality maintaining and favorable functional and aesthetic results.

Discussion: Traumatic dental injuries are the fifth most prevalent disease/injury in the world. Although rare, crown fracture of an unerupted incisor may occur in childhood, demanding a considerable clinical and radiographic follow-up. In addition, techniques that can be completed in a timely and efficient manner are important in pediatric dentistry. Predictable and positive long-term aesthetic outcomes can be achieved using a CAD/CAM system associated with adhesive restorative protocols.

Conclusion: Evidence-based dental practice is toward a more conservative approach that preserves natural tooth structure while keeping the procedure fast and tolerable for the pediatric dental patients. Nowadays, digital techniques become increasingly integrated into restorative procedures.