



Management of Dentoalveolar Trauma in an Adolescent Patient

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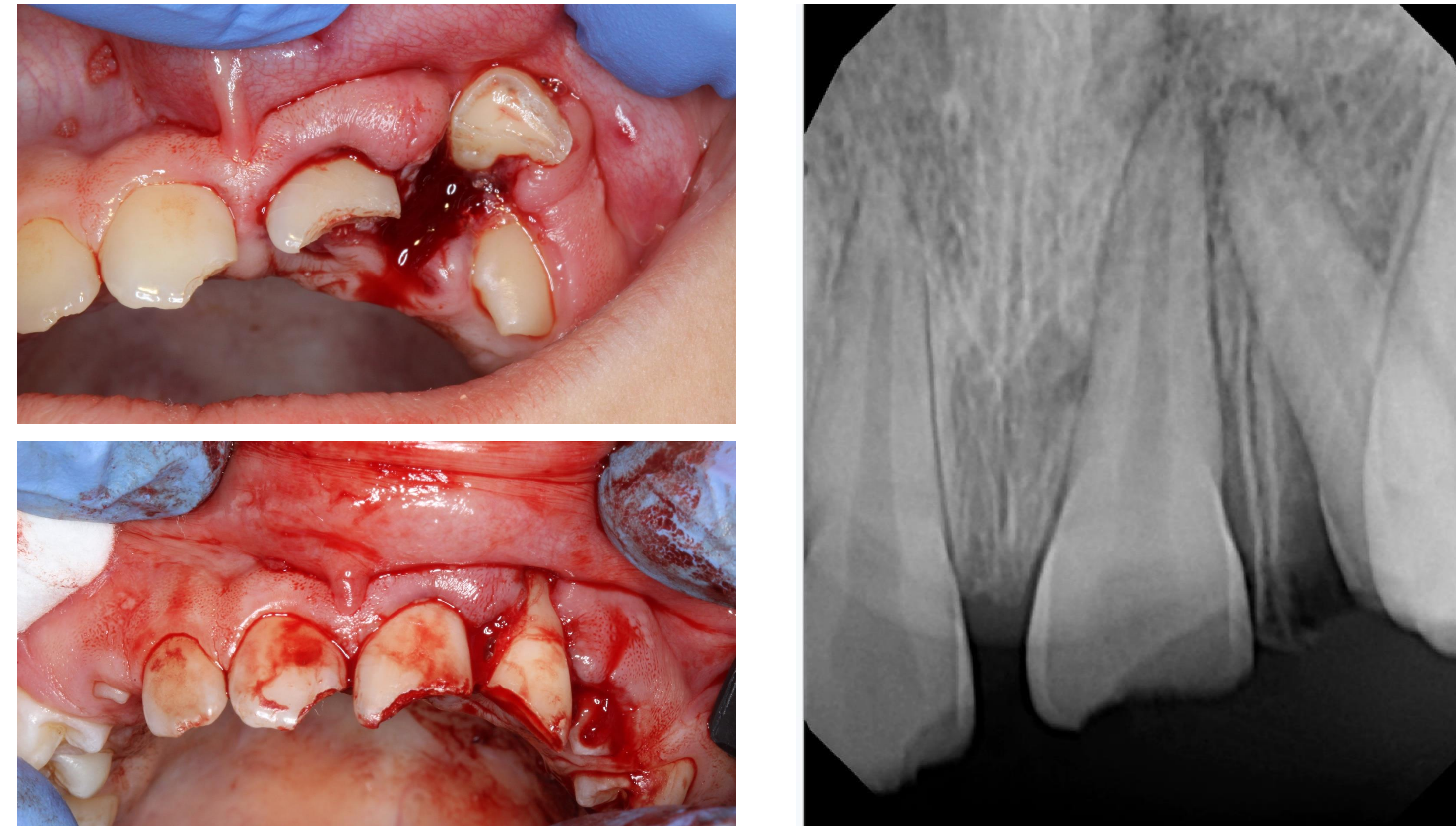
INTRODUCTION

- 33% of adults have experienced dental trauma to permanent dentition by 19 years of age^[1]
- Crown fractures are the most common injury to permanent dentition^[1]
- Patient compliance and follow-up is imperative to promote long-term success of the permanent dentition that experienced trauma

CASE REPORT

- An **11-year-old male patient** was seen in the Riley Dental Clinic ~3 hours after a collision (foot to face) on a slide at a park
- The patient initially was seen in the ED before being sent to the Riley Dental Clinic
 - No history of loss of consciousness
 - Normal neurological assessment
 - Essentially negative medical history, no medications, no allergies
- **Extraoral findings:** No pathology detected
- **Intraoral findings:**
 - #8 – Enamel-dentin fracture
 - #9 – Enamel-dentin-pulp fracture, intrusion
 - #10 – Enamel-dentin-pulp fracture, intrusion, buccally luxated
- **Treatment:**
 - Local anesthesia and nitrous oxide
 - #9 and #10 were surgically repositioned and stabilized via a flexible splint (0.012 NiTi) extending from #5 to #12
 - MTA, vitrebond, and flowable resin were placed on teeth #8, #9, and #10.
 - 7-days of oral antibiotic and chlorhexidine rinse
- **Follow-up**
 - 1 week, 3 weeks, 5 weeks, and 6 weeks post-op
 - Root canal treatment was recommended, and completed by local endodontist
 - The splint was removed 6 weeks post-trauma when a notable decrease in tooth mobility was observed

Initial Presentation – 9/23/25



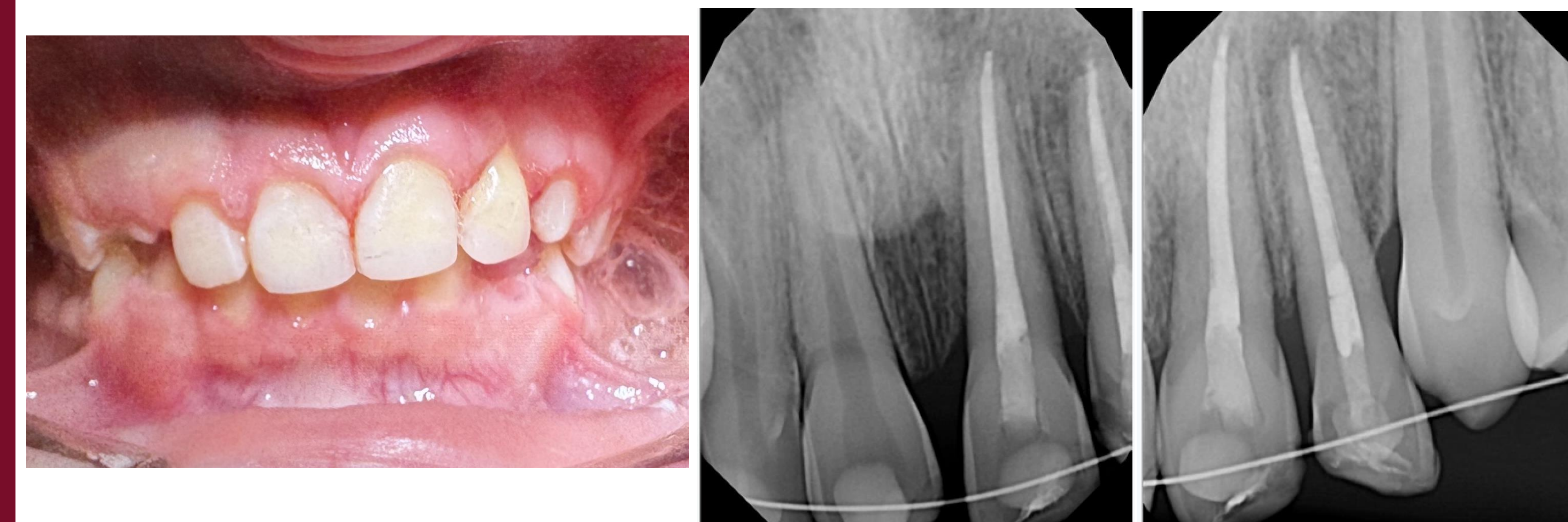
1 Week Follow-up – 9/30/25



3 Week Follow-up – 10/14/25



6 Week Follow-up – 11/5/25



DISCUSSION

- This patient presented to the Riley Dental Clinic ~3 hours after his injury
- The prognosis of nerve healing is poor due to:
 - Closed apices of the teeth involved^[2]
 - The combination of injuries to the affected teeth^[2]
- Treatment rendered:
 - Surgical repositioning
 - Flexible splint (0.012 NiTi)
 - MTA (direct pulp cap), vitrebond, flowable resin
- Treatment rationale:
 - Depth of intrusion (>5mm)^[2]
 - Closed apices^[2]
 - Extent of luxation^[2]
 - Pulpal exposure^[2]
- Information given to family:
 - Teeth #9 and #10 will need endodontic treatment^[2]
 - Overall prognosis of the intruded and luxated teeth is guarded^[3]
 - Risk of root resorption and pulpal necrosis^[3]
- Recommendations/prescriptions:
 - Tetanus vaccine booster^[4]
 - 7-day course of antibiotics^[2]
 - 2-weeks of chlorhexidine rinse^[2]
- 5th week follow-up: patient presented with completed RCT on teeth #9 and #10
- 6th week follow-up: the splint was removed and final restorations were completed
- Given the patient's compliance with follow-up appointments, oral hygiene, and RCT, the overall prognosis of #9 and #10 is fair with a favorable outcome
- Long-term follow-up is needed to determine the success of treatment^[2]

REFERENCES

1. American Academy of Pediatric Dentistry. (2019). Guidelines for the management of traumatic dental injuries: 1. Fractures and luxations of permanent teeth.
2. Bourguignon C, Cohenca N, Lauridsen E, et al. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 1. Fractures and luxations. Dent Traumatol. 2020;36:314–330.
3. Kallel, I., Lagha, M., Moussaoui, E., & Douki, N. (2022). Lateral luxation: Is root resorption an unavoidable complication?. Clinical case reports, 10(5), e05880.
4. Rhee, P., Nunley, M. K., Demetriades, D., Velmahos, G., & Doucet, J. J. (2005). Tetanus and trauma: a review and recommendations. The Journal of trauma, 58(5), 1082–1088.

