Failed Spontaneous Re-eruption of Iatrogenic Primary Intrusion: A Case Report

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BACKGROUND

Traumatic dental injuries of primary teeth and/or supporting structures are commonplace in childhood. Appropriate diagnosis, follow-up, and indicated treatment leads to improved outcomes. Current AAPD guidelines for the management of traumatic dental intrusions of the primary dentition recommend allowing for spontaneous re-eruption, regardless of direction (coronal vs labial) of displacement. Re-eruption is noted to take up to 1 year.

CASE

This presentation describes a female infant whose medical history includes VSD, chromosome 11p complex rearrangement, febrile seizure, difficult intubation, urinary reflux, and more. Mom's chief concern was the child's missing front tooth that was previously present- she reported noticing a tooth missing after an emergency intubation due to a reported 30+ minute generalized tonic-clonic seizure when the patient was approximately 10 months old. Iatrogenic intrusion of tooth #F (Primary, maxillary, left, central incisor) was monitored for 1 year and extracted due to failure to spontaneously re-erupt.

CURRENT GUIDELINES (2020)

Intrusive luxation	Radiographic recommendations and findings	Treatment	Follow up	Favorable and unfavorable outcomes include some, but not necessarily all, of the following	
				Favorable outcome	Unfavorable outcome
  Clinical findings: The tooth is usually displaced through the labial bone plate, or it can impinge on the permanent tooth bud • The tooth has almost or completely disappeared into the socket and can be palpated labially	• A periapical (size 0 sensor/film, paralleling technique) or occlusal radiograph (size 2 sensor/film) should be taken at the time of initial presentation for diagnostic purposes and to establish a baseline • When the apex is displaced toward or through the labial bone plate, the apical tip can be seen and the image of the tooth will appear shorter (foreshortened) than the contralateral tooth • When the apex is displaced toward the permanent tooth germ, the apical tip cannot be visualized and the image of the tooth will appear elongated	• The tooth should be allowed to spontaneously reposition itself, irrespective of the direction of displacement • Spontaneous improvement in the position of the intruded tooth usually occurs within 6 mo • In some cases, it can take up to 1 y • A rapid referral (within a couple of days) to a child-oriented team that has experience and expertise in the management of pediatric dental injuries should be arranged • Parent/patient education: - Exercise care with eating not to further traumatize the injured tooth while encouraging a return to normal function as soon as possible - To encourage gingival healing and prevent plaque accumulation, parents should clean the affected area with a soft brush or cotton swab combined with an alcohol-free 0.1%-0.2% chlorhexidine gluconate mouth rinse applied topically twice a day for 1 wk	• Clinical examination after: - 1 wk - 6-8 wk - 6 mo - 1 y - Further follow up at 6 y of age is indicated for severe intrusion to monitor eruption of the permanent tooth • Radiographic follow up only indicated where clinical findings are suggestive of pathosis (eg, an unfavorable outcome) • Parents should be informed to watch for any unfavorable outcomes and the need to return to the clinic as soon as possible. Where unfavorable outcomes are identified, treatment is often required • The follow-up treatment, which frequently requires the expertise of a child-oriented team, is outside the scope of these guidelines	• Asymptomatic • Pulp healing with: - Normal color of the crown or transient red/gray or yellow discoloration and pulp canal obliteration - No signs of pulp necrosis and infection • Continued root development in immature teeth • Periodontal healing • Re-eruption/realignment of the intruded tooth • No disturbance to the development and/or eruption of the permanent successor	• Symptomatic • Signs of pulp necrosis and infection—such as: - Sinus tract, gingival swelling, abscess, or increased mobility - Persistent dark gray discoloration with one or more signs of infection • Radiographic signs of pulp necrosis and infection • No further root development of immature teeth • Ankylosis • Negative impact on the development and/or eruption of the permanent successor

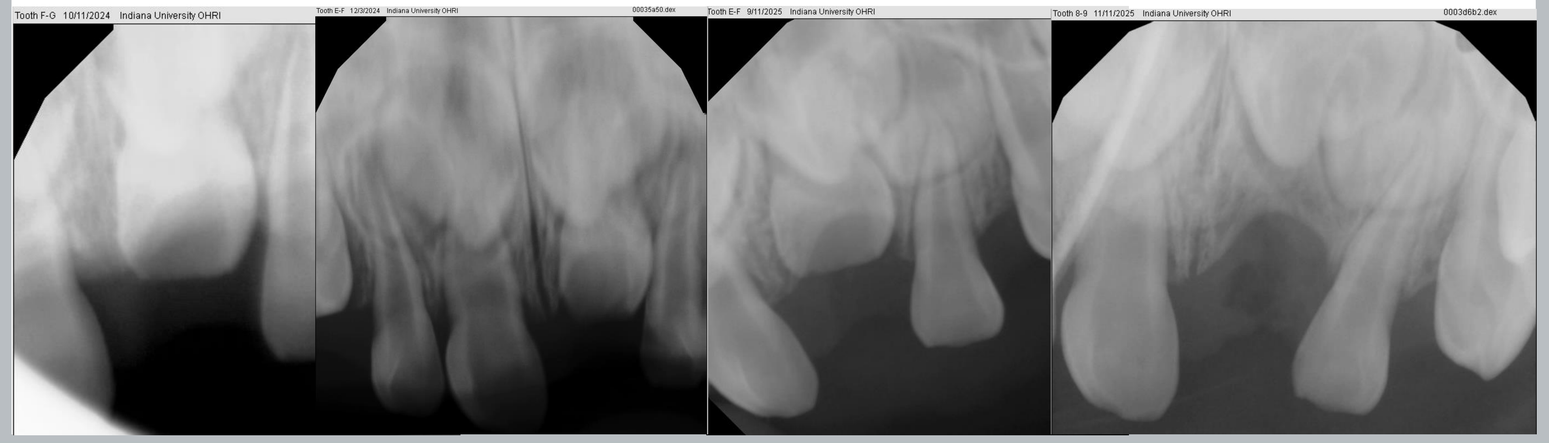
CLINICAL PHOTOS IN OR

TREATMENT

-Iatrogenic intrusion at ~10 months.
-Comprehensive Exam at ~1 year, 2 months.
-Re-eval. at ~1 year, 4 months.
-Re-eval. at ~2 years, 1 month.
-OR at ~2 years, 3 months.

Future follow-up is indicated to determine any pathology and eruption disturbances of tooth #9 considering of the Nolla stage of tooth development < stage 6.

RADIOGRAPHS IN CHRONOLOGICAL ORDER



REFERENCES

Day PF, Flores MT, O'Connell AC, et al. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 3. Injuries in the primary dentition. Dent Traumatol 2020;36(4):343-359. https://doi.org/10.1111/edt.12576.