



ABSTRACT/INTRODUCTION

Abstract/introduction: Pre- eruptive intracoronal resorption (PEIR), also known as “pre-eruptive caries,” is a dental condition characterized by the resorption of dental tissue prior to the eruption of the tooth.¹ PEIR is typically found adjacent to the dentin-enamel junction, within the occlusal dentin of the tooth.² PEIR may be referred to as “occult” or hidden caries due to the presence of sound enamel and is often an incidental finding on routine radiographs.³ PEIR is often misinterpreted as traditional caries due to its radiographic appearance,³ however requires careful evaluation for determination of treatment and long term success.

Case report: This case report details a 13 year old female patient who presented to the Children's Mercy Hospital Dental Clinic in August 2025 with asymptomatic PEIR on her permanent second molar. The patient's medical history is significant for Apert's syndrome. Although the exact etiology of PEIR is unknown, this case report aims to explore potential etiologies, diagnosis, treatment, and clinical considerations of PEIR.

CASE REPORT

A 13 year old female patient initially presented to the Children's Mercy Dental Clinic in January 2021 for a new patient exam. Medical history included Apert's Syndrome. The patient was scheduled for Same Day Surgery in July 2021, where treatment included full mouth rehabilitation with primary and permanent stainless steel crowns and extraction of primary and permanent teeth. The patient was seen again for Same Day Surgery in August 2022, where permanent stainless steel crowns were placed. A panoramic image, as seen in Figure 1, was taken in August 2024 at the patient's recall exam. The panoramic image revealed pre-eruptive caries in the distal pit of #18 that was not able to be visualized clinically. No treatment was recommended on #18 at that time, however extraction of #K was recommended by the provider to aide in eruption of #20.

The patient missed their following 6 month recall and was therefore not seen again until August 2025. Extraoral and intraoral exam presented within normal limits. Clinically, #18 presented with no tactile or visual evidence of decay. There was no evidence of enamel decay or decalcification when evaluated with an explorer, nor shadowing present. #18 presented fully erupted, however was mesially tilted. A bitewing image, see in Figure 2, revealed large dentin decay encroaching the distal pulp horn. A periapical image was taken to assess the root apices, as seen in Figure 3. #18 appeared within normal limits, with slight widening on mesial root. Pulp sensibility tests including palpation, percussion, and cold testing were performed. #18 responded within normal limits to all tests when compared to baseline. The patient reported no symptoms and was unaware of the decay present.

Upon initial assessment, extraction of #18 was recommended. Extraction was recommended over stainless steel crown due to the tilted position of #18 making crown margins unfavorable. Treatment options were discussed such as a composite restoration for a more conservative approach, or extraction. Ultimately, extraction was deemed the best treatment option for a successful outcome. Treatment is scheduled to be completed under general anesthesia.

DISCUSSION/CONCLUSION

The etiology of PEIR remains unclear, research suggesting it may be due to abnormalities of the tooth, external resorption, or ectopic eruption.⁶ Treatment of PEIR is dependent on the specific case presentation, including the extent of the lesion, speed of progression, and symptoms. The literature suggests PEIR can be divided into the two categories of static or developing. Lesions should be regularly monitored with radiographs to determine progression. Treatment differs depending on speed of development and may include early intervention if diagnosed as progressing quickly. Early intervention may include surgical exposure of the affected tooth and treatment with caries excavation and restoration with glass ionomer. Early intervention can help to prevent the need for extraction due to progression of the lesion. If static, treatment may include caries excavation and restoration with glass ionomer, extraction, or monitoring until eruption. If static and asymptomatic, treatment may be postponed until symptoms develop or the lesion can be classified as developing. Once the tooth erupts into the oral cavity, progression may be expedited due to the presence of cariogenic bacteria which can invade the preexisting lesion. According to a systematic review which investigated treatment modalities for PEIR, surgical exposure and restoration was deemed a high priority for a successful outcome.⁶ In conclusion, careful radiographic evaluation by the dental provider can result in early detection and diagnosis for development of a treatment plan. The earlier the lesion is diagnosed, the better odds of success the patient will have in treatment.

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Figure 1: August 4, 2024

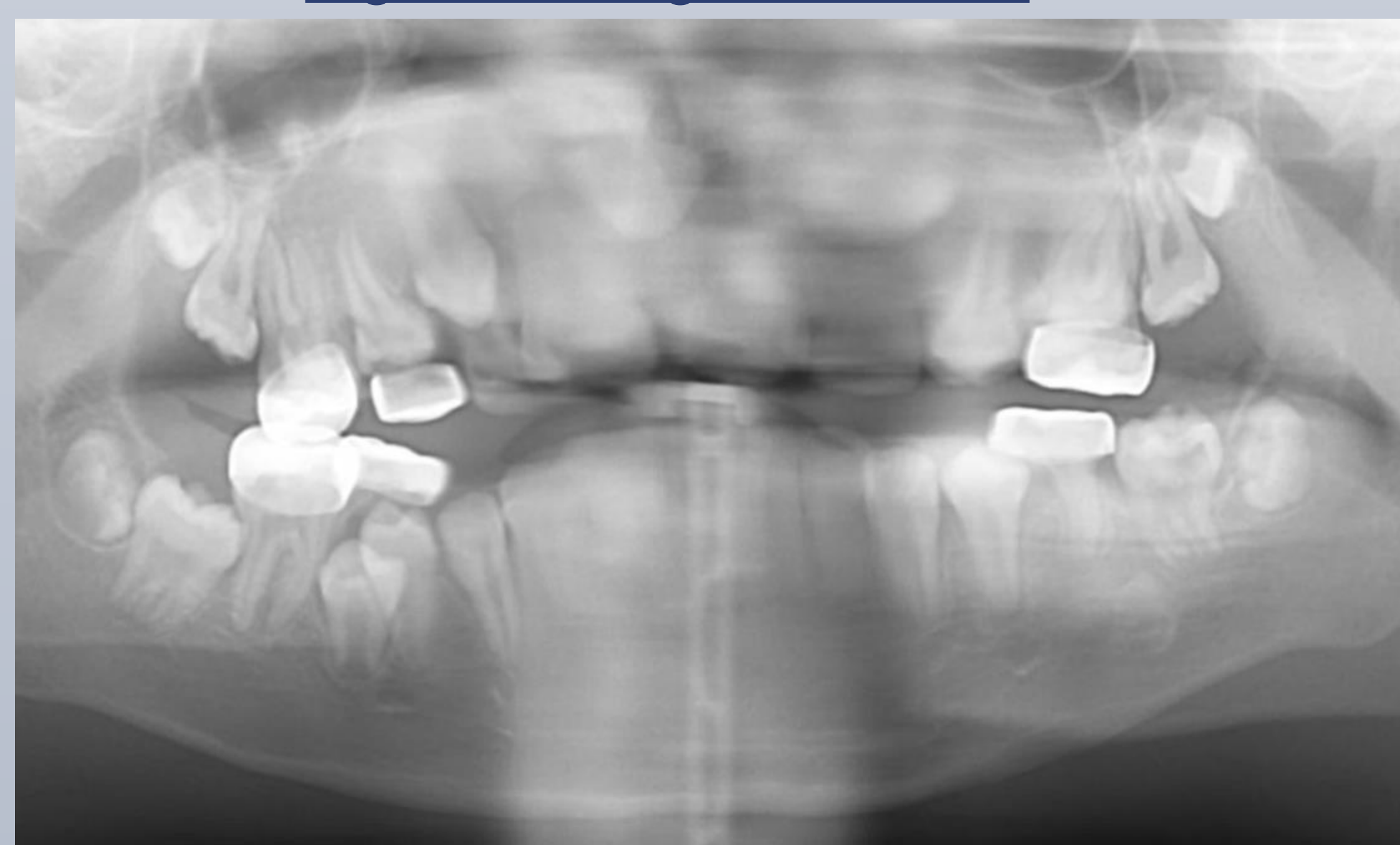


Figure 2: August 27, 2025



Figure 3: August 27, 2025

