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I n t r o d u c t i o n

Root canal treatment, a commonly performed dental procedure aimed at preserving teeth, is generally successful in alleviating pain and restoring oral health. However, like any medical intervention, root canal procedures are not without their complexities, and complications can arise [1], posing challenges for both patients and dental professionals.

This article endeavors to explore the intricacies of "Root Canal Complications: Recognizing and Addressing Challenges," shedding light on the potential issues that may arise during or after treatment and offering insights into their identification and management.

While the majority of root canal procedures are successful, a nuanced understanding of potential complications is essential for comprehensive patient care. From inadequate cleaning and shaping to the challenges of detecting missed canals, the recognition of these issues is pivotal for timely intervention [2,3]. Complications such as instrument fractures, root perforation, and post-operative infections underscore the need for advanced diagnostic tools and the expertise of experienced endodontists.

As patients navigate the landscape of root canal treatments, awareness of potential complications becomes a crucial aspect of their oral health journey. This article aims to empower both dental practitioners and patients with knowledge to navigate these challenges effectively, fostering a proactive approach toward recognizing, addressing, and mitigating potential complications associated with root canal procedures [4].

Inadequate Cleaning and Shaping

One common root canal complication is incomplete cleaning and shaping of the root canals. If bacteria-laden pulp remnants persist, it can

P -O e a i e Infec i n

Despite meticulous cleaning, a root canal-treated tooth can become reinfected, resulting in persistent or new symptoms [8]. This can occur due to the presence of undetected accessory canals or a breakdown in the sealing material. Timely retreatment or, in severe cases, tooth extraction may be necessary.

Ne e Pain and Pa e he ia

Nerve pain or paresthesia, a tingling or numb sensation, can occur if the nerve is inadvertently damaged during the procedure. While rare, this complication requires careful monitoring and, in some cases, referral to specialists for further evaluation and management [9].

C racked T h S nd me

Root canal-treated teeth, especially molars, may be prone to cracking over time. This can lead to discomfort and compromise the tooth's integrity. Recognizing the signs of a cracked tooth and addressing it promptly may involve restorative procedures such as dental crowns or, in severe cases, tooth extraction [10].

C ncl i n

In the realm of dental care, root canal procedures stand as a pivotal intervention for preserving compromised teeth and alleviating pain. However, the landscape of oral health includes the potential for complications, demanding a nuanced and vigilant approach from both dental professionals and patients. As we conclude our exploration into "Root Canal Complications: Recognizing and Addressing Challenges," it becomes evident that understanding and proactively managing these complexities are integral to the long-term success of such treatments.

From inadequate cleaning and missed canals to instrument fractures and post-operative infections, the spectrum of complications underscores the need for advanced diagnostic tools and the expertise of experienced endodontists. Root perforation and nerve-related issues,