

Root Canal Treatment its Clinical Approach, Indications and Benefits

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Description

Root canal treatment is a specialized dental procedure aimed at saving teeth that are affected by infection, deep decay, or trauma involving the dental pulp. The dental pulp contains nerves, blood vessels, and connective tissue that are vital for the tooth's health. When the pulp is damaged, it can result in pain, sensitivity, or abscess formation. Root canal therapy eliminates the infection, disinfects the canal system, and seals the tooth, preventing extraction and preserving natural dental function.

The main reason for performing a root canal is pulp inflammation that cannot heal on its own, commonly due to severe cavities, repeated dental procedures, tooth fractures, or direct trauma. If left untreated, the infection can spread beyond the tooth root, causing swelling, bone loss, and severe pain. Root canal treatment addresses the source of infection, alleviates discomfort, and maintains the integrity of the natural tooth.

Before the procedure, dentists perform a comprehensive assessment including dental X-rays to examine the tooth's structure, canal shape, and condition of surrounding bone. Local anesthesia is administered to ensure patient comfort, and the tooth is isolated using a dental dam to prevent contamination. The procedure involves creating an access opening in the tooth, removing infected pulp, cleaning and shaping the canals, and disinfecting the space with specialized solutions. Canals are then filled with a biocompatible material, such as gutta-percha, to prevent reinfection, followed by placement of a restoration, often a crown, to restore strength and function.

Post-operative care is important to ensure proper healing and prevent complications. Mild pain or discomfort may occur for a few days, which can be managed with over-the-counter analgesics. Patients are advised to maintain oral hygiene, avoid chewing on hard foods until the tooth is fully restored, and attend follow-up appointments for evaluation. Proper care contributes

to long-term success and prevents recurrence of infection.

Root canal treatment preserves natural teeth, maintaining chewing ability and oral aesthetics. It helps prevent shifting of adjacent teeth, reduces the risk of abscess formation, and supports overall oral health. Technological advancements, including digital imaging, rotary instruments, and enhanced irrigation techniques, have improved the precision and efficiency of the procedure, making it more comfortable and effective for patients. Retreatment may be necessary in some cases to address recurring issues. Awareness of early signs of pulp infection, prompt dental care, and adherence to post-treatment instructions enhance outcomes and reduce risks.

Patient education is critical in achieving favorable outcomes. Understanding the importance of early intervention for tooth pain, sensitivity, or swelling encourages timely treatment, which increases the chances of preserving the tooth and avoiding extraction. Dental professionals also emphasize preventive care, including routine check-ups, oral hygiene, and management of risk factors, to reduce the incidence of pulp infections.

CONCLUSION

Root canal treatment is an essential dental procedure for preserving teeth affected by infection, decay, or trauma. It removes infection, disinfects the canal system, and restores the tooth, preventing further complications. Success relies on accurate diagnosis, careful execution, and patient adherence to post-operative care. Advances in dental technology continue to enhance treatment precision, comfort, and outcomes, making root canal therapy a reliable solution for maintaining oral health and function. Although the success rate of root canal treatment is high, potential complications can arise, including incomplete cleaning of canals, persistent infection, or fracture of the treated tooth.