

Endodontics or Root Canal Therapy

What is it?

Endodontics or root canal therapy may be required on a tooth if the dental pulp (consisting of the nerve and blood supply within the centre of the tooth and roots) is infected or inflamed. Inflammation or infection can be precipitated by a deep cavity, large deep fillings, trauma, cracks in the tooth, extreme wear or gum disease.



What does it achieve?

Many millions of teeth are saved around the world each year by having endodontic treatment. The aim of endodontic treatment is to clean, shape and sterilize the root canal before filling the canal to prevent further infection.

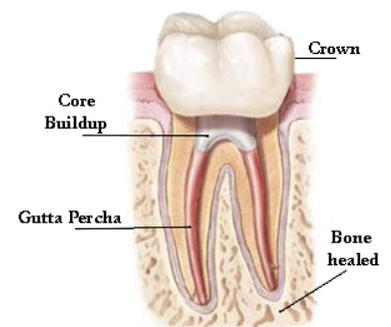
What does it involve?

Prior to commencing endodontic treatment, all decay needs to be removed and the tooth stabilized. This may involve removing all the old fillings and placing a stainless steel band around the tooth. The tooth is also assessed for its suitability for long term restoration. A sheet of rubber (rubber dam) is placed around the tooth to isolate it from the rest of the mouth. Access is made through the biting surface of the tooth to the canals. The canals are measured then cleaned and shaped with hand files and rotary NiTi files.

Finally, a sedative dressing is placed and the tooth is sealed. At the next visit rubber dam is again placed and the dressing is flushed out. If suitable the canals are filled with a rubber like material called gutta percha. The tooth is then sealed. Further appointments may be required to place the definitive restoration on the tooth. The endodontic treatment is performed with the tooth anaesthetized like when a filling is done so there should be no sensation.

What happens after the root filling?

Success in endodontics involves the complete removal of bacteria from the canal system and surrounding tissues. This resolves the symptoms. Typically, a tooth which requires endodontic treatment has had significant loss of tooth structure and so it is weakened. To decrease the risk of the tooth fracturing or splitting your dentist is likely to recommend that a crown is placed on the tooth. The crown acts as a ring around the tooth to help hold it all together. Occasionally a tooth may have darkened before or after endodontic therapy and it may be appropriate to bleach some of this stain from the tooth.



What are the possible risks?

As with all dental and medical treatments, root canal therapy has risks.

Possible complications include:

- **Complex root and canal anatomy** may necessitate referral to a specialist endodontist for root canal therapy. This is more likely with molar teeth.
- **Infection.** Whilst every effort is made to treat the infection occasionally the canal system will become re-infected and require retreatment or removal of the tooth.
- **Fractured or separated instruments.** Endodontic instruments are made to the highest standard but they are very fine and so there is the uncommon risk of the instrument fracturing in the canal. In many cases this does not affect the final outcome but it could mean loss of the tooth.
- **Weakness and fracturing of the tooth.** Root filled teeth may not be as strong as other teeth particularly if they have extensive fillings. There is a risk of the tooth fracturing and so a crown is usually recommended following root canal therapy to reduce the risk of the tooth collapsing.
- **Discoloration of the tooth** may occur before or after root canal treatment. This may be corrected on an anterior tooth with bleaching or placement of a veneer or crown.

For further information see www.aae.org/patients/patientinfo/faqs/rootcanals/