

Root Canal Treatment

A root canal is a dental treatment to treat infection in the centre of a tooth before it spreads and causes an abscess. The tooth's nerve and pulp are removed and the inside of the tooth is cleaned and sealed.

The tooth doesn't need the nerve to stay healthy. The only difference is that tooth won't feel hot or cold food or drink.

Why does the pulp need to be removed?

When nerve tissue or pulp is damaged, it breaks down and bacteria begin to multiply within the pulp chamber.

The bacteria and other decayed debris can cause an infection or abscessed tooth. An abscess is a pus-filled pocket that forms at the end of the roots of the tooth. An abscess occurs when the infection spreads all the way past the ends of the roots of the tooth. In addition to an abscess, an infection in the root canal of a tooth can cause:

- Swelling that may spread to other areas of the face, neck, or head
- Bone loss around the tip of the root
- Drainage problems extending outward from the root. A hole can occur through the side of the tooth with drainage into the gums or through the cheek with drainage into the skin.

What damages a tooth's nerve and pulp in the first place?

Nerve and pulp can become irritated, inflamed and infected due to deep decay, repeated dental procedures on a tooth and/or large fillings, a crack or chip in the tooth, or trauma to the face.

What are the signs that a root canal is needed?

Sometimes no symptoms are present; however, signs to look for include:

- Severe toothache pain upon chewing or application of pressure
- Prolonged sensitivity/ pain to heat or cold temperatures (after the hot or cold has been removed)
- Discolouration (a darkening) of the tooth
- Swelling and tenderness in the nearby gums
- A persistent or recurring pimple on the gums

What happens during the procedure?

A root canal requires one or more dentist surgery visits and can be performed by a dentist or endodontist. An endodontist is a dentist who specialises in the causes, diagnosis, prevention and treatment of diseases and injuries of the human dental pulp or the nerve of the tooth. The choice of which type of dentist to use depends to some degree on the difficulty of the root canal procedure needed in your particular tooth and the general dentist's confidence level in working on your tooth. Your dentist will discuss who might be best suited to perform the work in your particular case.

The first step in the procedure is to take an X-ray to see the shape of the root canals and determine if there are any signs of infection in a surrounding bone. Your dentist or endodontist will then use local anaesthesia to numb the area near the tooth. Anaesthesia may not be necessary, since the nerve is dead, but most dentists still anaesthetise the area to make the patient more relaxed and at ease.

What happens during the procedure? continued...

Next, to keep the area dry and free of saliva during treatment, your dentist will place a rubber dam (a sheet of rubber) around the tooth.

An access hole will then be drilled into the tooth. The pulp along with bacteria, the decayed nerve tissue and related debris is removed from the tooth. The cleaning out process is accomplished using root canal files. A series of these files of increasing diameter are each subsequently placed into the access hole and worked down the full length of the tooth to scrape and scrub the sides of the root canals. Water or sodium hypochlorite is used periodically to flush away the debris.

Once the tooth is thoroughly cleaned, it is sealed. Some dentists like to wait a week before sealing the tooth. For instance, if there is an infection, your dentist may put a medication inside the tooth to clear it up. Others may choose to seal the tooth the same day it is cleaned out. If the root canal is not completed on the same day, a temporary filling is placed in the exterior hole in the tooth to keep contaminants out between appointments.

At the next appointment, to fill the interior of the tooth, a sealer paste and a rubber compound called gutta percha is placed into the tooth's root canal. To fill the exterior access hole created at the beginning of treatment, a filling is placed.

The final step may involve further restoration of the tooth. Because a tooth that needs a root canal often is one that has a large filling or extensive decay or other weakness, a crown, crown and post or other restoration often needs to be placed on the tooth to protect it, prevent it from breaking and restore it to full function. Your dentist will discuss the need for any additional dental work with you.

How painful is the procedure?

Root canal procedures have the reputation of being painful. Actually, most people report that the procedure itself is no more painful than having a filling done.

What should one expect after the root canal?

For the first few days following the completion of treatment, the tooth may feel sensitive due to natural tissue inflammation, especially if there was pain or infection before the procedure. This sensitivity or discomfort usually can be controlled with over-the-counter pain medications. Most patients can return to their normal activities the next day.

Until your root canal procedure is completely finished, that is to say, the permanent filling is in place and/or the crown, it's wise to minimise chewing on the tooth under repair. This step will help avoid recontamination of the interior of the tooth and also may prevent a fragile tooth from breaking before the tooth can be fully restored.

As far as oral health care is concerned, brush and floss as you would normally and see your dentist at the usual regular intervals.

How successful are root canals?

Root canal treatment is highly successful; the procedure has more than a 95% success rate. Many teeth fixed with a root canal can last a lifetime.

Also, because the final step of the root canal procedure is application of a restoration such as a crown or a filling, it will not be obvious to onlookers that a root canal was performed.

Complications of a root canal

Despite your dentist's best efforts to clean and seal a tooth, new infections might emerge. Among the likely reasons for this include:

- More than the normally anticipated number of root canals in a tooth (leaving one of them uncleaned).
- An undetected crack in the root of a tooth.
- A defective or inadequate dental restoration that has allowed bacteria to get past the restoration into the inner aspects of the tooth and recontaminate the area.
- A breakdown of the inner sealing material over time, allowing bacteria to recontaminate the inner aspects of the tooth.

Alternatives to a root canal

Saving your natural teeth is the very best option, if possible. Your natural teeth allow you to eat a wide variety of foods necessary to maintain good nutrition. The root canal procedure is the treatment of choice. The only alternative to a root canal procedure is having the tooth extracted and replaced with a bridge, implant, or removable partial denture to restore chewing function and prevent adjacent teeth from shifting. These alternatives not only are more expensive than a root canal procedure but require more treatment time and additional procedures to adjacent teeth and supporting tissues.

Since some of the reasons why the nerve of a tooth and its pulp become inflamed and infected are due to deep decay, repeated dental procedures on a tooth and/or large fillings, following good oral hygiene practices (brushing twice a day, flossing at least once a day, and booking regular dental visits) may reduce the need for a root canal procedure. Trauma resulting from a sports related injury can be reduced by wearing a mouth guard.

(Information from [Boots WebMD](#) 23 August 2016)