

WHAT IS A ROOT CANAL

The inside of a tooth is hollow and is filled with living cells, and contains nerves and blood vessels; this tissue is called the "dental pulp". The hollow space in the roots is called the "root canal".

The treatment of cleaning out the pulpal tissue, disinfecting the inside of the tooth, and sealing the tooth is called a "root canal" treatment.



WHEN WOULD I NEED A ROOT CANAL?

If the dental pulp becomes traumatized, it can die, leaving the tooth unable to fight off bacteria and vulnerable to infection. This can happen due to tooth decay, fracture, trauma and many other reasons.

A root canal treatment would be recommended if the tooth is dying and painful ("irreversible pulpitis") or is already dead ("necrotic") AND if the tooth is repairable (no severe decay, root/crown fractures, or severe gum disease).

Irreversible pulpitis is associated with sharp, lingering dental pain that is usually triggered by cold air or water, but can be spontaneous. This is a dying tooth and a root canal treatment is recommended to alleviate pain.

A necrotic tooth may not be painful as the nerves inside the tooth are already dead. Bacteria accumulates within the root canal system and release toxins that leach out the root tips into the surrounding bone. These toxins illicit an immune response that is associated with pain on biting. As the infection spreads, abscesses can appear on the gums, and in severe cases facial swelling can occur. A root canal treatment would be recommended to clear the bacteria from inside the tooth. This type of infection can be identified on a dental x-ray or CT Scan.

The alternative to a root canal for an infected tooth is to extract it.



THE TREATMENT

A root canal is performed with the same local anaesthesia that would be used for a dental filling, although a higher amount may be required for teeth that are very inflamed and painful.

The pulp chamber is accessed by drilling a hole through the top of the tooth, or by following existing tooth decay, allowing for access to clean out the tissue in the dental pulp.

At our office, we often use a microscope to locate where the root canal systems enter the pulp ("the orifaces") and then clean out the root systems with flexible rotary files. A CT Scan may be taken to map out the root canal system ahead of time.



The inside of the the pulp chamber is flushed with regular household bleach and an EDTA product (Q-mix), with an ultrasonic agitator to bubble the solutions into all the nooks and lateral canals that are present. This process removes the pulpal tissues and disinfects the canal system. We often place a calcium base within the canal system and seal the tooth temporarily to further disinfect the tooth and to make sure that the symptoms go away. Once the tooth is asymptomatic, the calcium is flushed out and the inside of the tooth is filled with a rubber material called gutta percha. We routinely take multiple visits to complete our root canals.

Dental crowns are recommended for back teeth that have had root canals in order to reduce the chances of a tooth fracture in the future.





WHAT ARE THE RISKS OF ROOT CANALS?

Root canal treatments have the reputation of being painful. This is not always the case because quite often the nerve in the tooth has already died by the time the need for a root canal has been determined. In situations where there is "irreversible pulpitis", it may take a couple of doses of anaesthetic to get the tooth comfortable enough to complete the treatment.

It is customary to have some pain after a root canal for a few days which can be managed with over the counter Ibuprofen or Acetaminophen. During the procedure we use files inside the roots and flush the tooth; these actions can irritate the tissues beyond the tips of the roots, so a little post treatment pain is expected. Rarely, patients can experience swelling and/or bruising after a root canal.

Antibiotics are usually only prescribed if the patient has a diffuse swelling of the face or gums. Localized abscesses do not need antibiotics, unless there is an expected delay before the root canal or dental extraction can be completed.

No treatment has a 100% success rate and root canals are no different. The canal system inside teeth is highly variable and is very complicated. A tooth may not heal because it has hidden canals, or a difficult to diagnose fracture. Teeth with fractured roots require removal.

Root canals are often "calcified", meaning that the canal system has become very narrow or even blocked, and are difficult to access and navigate. The root and floor of the pulp can become weak and thin in the process of searching for these calcified canals, so I am not too aggressive in exploring.

At our office, if we find that a tooth has a challenging root canal system, we suggest that a CT scan of the tooth be taken for further assessment, and then often recommend the treatment be completed by an Endodontist if we see very calcified canals, extra or difficult to find canal systems (teeth can have multiple canals per root), or very curved roots.



WHAT ABOUT CANCER???? OR "CAVITATIONS"?????

There is a huge amount of misinformation about root canals circulating social media, web pages and even TV streaming services.

Root canals do not cause cancer.

These articles often source studies that are "correlational", where they look at people with cancer and find shared traits. There is no evidence that root canals are carcinogenic, although certainly someone with cancer may have had a root canal in the past.

"I heard that root canals give you cavitations!"

Research shows that over 90% of root canals are successful, but of course, just like anything, they can fail. When they do, the infection can return and cause an abscess, and in some situations a cyst can form. It is important to have routine dental checkups.

"My holistic dentist said I should remove my teeth that have root canals"

Successful root canals heal normally and are not associated with systemic illness. It is important, however, to take x-rays of the roots of teeth that have had root canals every few years to make sure things are still healthy.

Do not get your root canal treated teeth pulled!!!!! Please!!!! It will lead to a bunch of other problems down the road.