

## Root Canal Treatment: Potential Risks and Complications

All dental procedures, including the root canal treatment of teeth are associated with some risk. Despite the highest standards of practice, complications are possible. These may include but are not limited to:

**Loss of the tooth:** 100% success cannot be guaranteed for all root canal treatments. We cannot predict how long the tooth will last following treatment, but it should last several years. This will be affected by patient factors (including health and oral hygiene) and tooth factors (the amount of tooth structure left and type of final filling/crown).

**Root fracture:** During or after root canal treatment, fracture of the root of the tooth may occur. Depending on the severity, the tooth may need to be removed.

**Perforation:** During opening and cleaning of the root canal, accidental opening of the crown or root of the tooth may occur. This may be managed by your dentist or may require referral to a specialist (endodontist). If severe, the tooth may need to be removed.

**Infection:** The risks of re-infection following treatment are low. However, if this does occur, re-treatment of the tooth may be necessary or the tooth may have to be removed.

**Discolouration:** Occasionally, the tooth may become discoloured or darker following treatment. There are several treatment options for this, such as bleaching, veneers or a crown.

**Host resistance:** In some cases, the patients' immune system may be unable to fight the infection leading to failure of the root canal treatment.

**Treatment failure:** Root canal therapy relies heavily on radiographs (x-rays). These are 2D shadows of a 3D object. They are therefore very reliable, but not infallible, and may in some cases lead to treatment failure.

**Pain or discomfort:** It is normal for the tooth, your mouth or your jaw joint to be uncomfortable for 2-3 days after treatment. Sometimes, depending on the circumstances, the tooth and surrounding tissues may remain sore for **a few weeks** post treatment. Symptoms may include sensitivity to hot or cold and/or sensitivity to pressure or swelling. A pain reliever may be prescribed to manage this, or further treatment in the chair may be required.

**"Flare-up":** Although about 95% of root canals cause very little to no discomfort after the treatment is completed, there are about 5% of cases which can cause significant pain. These are commonly referred to as "flare-ups." They mostly occur on badly infected teeth, teeth that are extremely irritated, or teeth that have a history of prior treatment. Sometimes, however, they occur randomly, even on patients that have had several root canals done previously without any problems. If you have a flare-up you may experience moderate to severe pain, swelling, bruising, throbbing, and general discomfort, which usually begins a few hours after treatment and may last 2 to 3 days. Please contact our surgery if you experience any of these symptoms and we will do everything we possibly can to get you some relief. You may be prescribed antibiotics, stronger pain medication, and/or you may be asked to come to the surgery to receive further therapy.

**Weakness** – The tooth is often weakened following root canal treatment which may lead to fracture of the tooth. For this reason, a crown may be recommended.

**Numbness or altered sensation** – If the nerve is bruised or injured during the procedure there may be a loss of feeling, taste or tingling in the teeth or soft tissues of the mouth or face (including the lip, tongue, chin, gums, cheeks and teeth). The sensation should return in a period of weeks but may take 6-18 months. In rare cases, the altered sensation may be permanent.

**Instrument fracture** – Instruments used to clean the tooth are small and fine and therefore may break within the root canal. This may be managed by your dentist or may require referral to a specialist (endodontist). In some cases it is not possible to remove the fractured portion. Fracture of an instrument may not necessarily affect the success of the root canal treatment.

**Re-treatment** – Pain or infection may occur months or years after a tooth has been treated. This is usually due to further deep decay, trauma, a cracked tooth or a cracked filling, that allows bacteria to enter the tooth and cause the infection. Further root canal treatment or extraction (removal of the tooth) may be needed.

**Cost** – Due to the unpredictable nature of root canal treatment, the final cost may vary from the original estimate.

## Root Canal Treatment: Informed Consent

The aim of root canal treatment (RCT) is to save a tooth that has been badly damaged due to decay, disease or injury. RCT may potentially save your tooth from being extracted (permanently removed). Most people prefer to save their tooth because it will generally function better than an artificial tooth. Your original tooth is usually stronger and more efficient for biting and chewing.

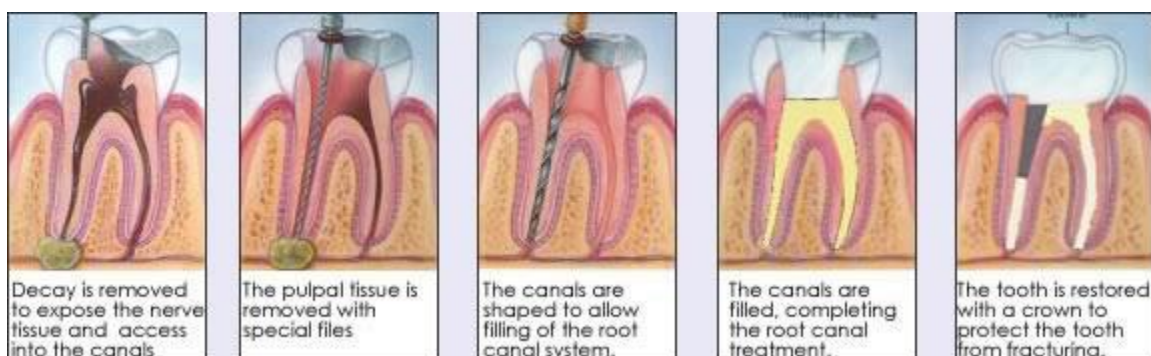
Problems with biting, chewing and oral health are associated with losing a tooth. The adjacent teeth may also move into the space once occupied by the extracted tooth and cause your teeth to move out of position.

The pulp is the soft tissue deep inside a tooth. The pulp contains nerves, blood vessels and connective tissue. It extends from the tooth crown to the tip of each root. Infection or inflammation of the pulp may be caused by:

- Breakdown of a filling or crown;
- A deep cavity/tooth decay;
- Trauma;
- Gum disease;
- A crack or chip in the tooth; or
- Extreme wear.

Symptoms may include pain, sensitivity to hot or cold, tooth discolouration and swelling or soreness in the gums surrounding the tooth. If left untreated, the nerve may die and become infected. RCT is then needed to save the tooth. All root canals in the affected tooth should be treated as soon as possible.

To reach the pulp, an opening through the tooth is made with a dental drill. Using special instruments called files the dentist will remove the inflamed or infected pulp. Each root is cleaned, enlarged and shaped. To protect the inside of the tooth, the root canals are filled and the pulp chamber is sealed. Anti-inflammatory and/or anti-bacterial medications may be put inside the root canal to help stop the inflammation and infection. You may need to make several visits to the dentist to complete the treatment. Once treatment has begun, it must be completed. A temporary filling will protect the inside of the tooth between visits.



Root canal treatment is successful in 85-95% of cases. If good care of the treated tooth is taken, it should last for many years.

Usually a treated tooth is at increased risk of fracture without the protection of an artificial crown, so one should be fitted soon after treatment (if recommended). Crowns are usually made of metal or porcelain and are required to:

- Protect, strengthen and further seal the tooth,
- Restore normal occlusion (the way the upper and lower teeth contact each other during biting), and
- Restore an acceptable cosmetic appearance.

**Please note:** There are several significant risks associated with root canal treatment (see attached sheet). Specialist referral may be required in some cases for further treatment, at your own expense. Additionally, there are risks involved in the administration of anaesthetic, analgesics (pain medications) and antibiotics. You must inform the dentist of any previous side effects or allergies, prior to commencing treatment.

Please sign below if you have asked all necessary questions and therefore understand and agree to the above conditions. You also agree that alternative options such as extraction or no treatment have been discussed and the implications/consequences of each explained:

Description of proposed treatment:

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Quotation: \_\_\_\_\_

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Dentist: \_\_\_\_\_

Date: \_\_\_\_\_

## Root Canal Treatment – Post-operative Instructions

- DO NOT eat or drink anything for the next hour. You have a temporary filling in the tooth and it takes about an hour to harden.
- The temporary filling is not very durable and is prone to breakage or dislodgement if not treated carefully. DO NOT use the tooth to bite down on anything hard (peanuts, pretzels, ice, etc) or anything sticky (gum, caramel etc) until the permanent filling/crown has been placed on the tooth.
- You may brush your tooth as normal. Floss around your temporary filling gently. Pull the floss out to the side (do not bring the floss up), so the temporary filling will not 'pop off'.
- If the temporary filling falls out, you should contact us as soon as possible to replace the filling, to ensure the root canal therapy remains protected.
- Starting tonight, gently rinse your mouth with warm salt water (half a teaspoon of salt in a glass of boiled and cooled down water). Repeat 3-4 times daily for the next 3 days.
- Take care not to bite your lip or tongue if still numb after the procedure.
- If an antibiotic has been prescribed to you, be certain to take it as directed. Be careful to finish all the tablets regardless of how well you feel.
- If you experience discomfort you may take pain relieving medication as directed.
  - a) 2-3 tablets (400-600mg) of ibuprofen (e.g. Nurofen, Advil) every 6 hours for 2-3 days. DO NOT take more than 12 tablets (2400mg) in 24 hours.
  - OR
  - b) 2 tablets (1000mg) of paracetamol (e.g. Panadol) every 6 hours for 2-3 days. DO NOT take more than 8 tablets (4000mg) in 24 hours.

You need to have a permanent filling or a crown (if recommended) placed on your tooth within 1 MONTH of the root canal being completed. It is essential for you to follow up with this. If this is not done, the tooth is very likely to fracture or to develop new decay underneath the temporary filling which may cause your root canal to fail.

**You will be responsible for all costs incurred if you fail to follow this instruction.**

## When to call us:

It is normal to experience some discomfort for several days after a root canal treatment, but call us right away if you have:

- Severe pain
- Swelling
- Discomfort lasting longer than 10 days

You may reach us during normal business hours on (02) 8937 0585, or if you have an emergency when our surgery is closed, please visit the emergency department of your local hospital.