

Root Canal Treatment

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Root Canal Treatment

Root canal treatment — clinically known as endodontic therapy — is one of dentistry's most misunderstood procedures. Far from the intimidating experience its reputation suggests, modern root canal treatment performed by a registered specialist endodontist is typically no more uncomfortable than having a filling placed. When the alternative is losing a tooth altogether, it is also one of the most valuable.

What Is Root Canal Treatment?

Every tooth contains a hollow channel system running from the crown down through each root into the surrounding jawbone. Inside these canals sits the dental pulp: a bundle of nerves, blood vessels and connective tissue that nourishes the tooth during development. Once a tooth is fully formed, the pulp is no longer essential to its survival — the surrounding bone and periodontal ligament provide adequate support.

When pulp tissue becomes infected or irreversibly inflamed — through deep decay, a crack, a fracture, or repeated dental procedures — it cannot heal on its own. Left untreated, the infection spreads into the bone surrounding the root tip, causing an abscess and eventually threatening both the tooth and adjacent structures.

Root canal treatment removes the diseased pulp, cleans and shapes the canal system, and seals it permanently. The tooth is retained, restored, and continues to function normally for many years or even decades.

When Might You Need Root Canal Treatment?

Your general dentist may refer you to a specialist endodontist when:

- You have a deep cavity that has reached the pulp
- A tooth is causing spontaneous pain, particularly throbbing or waking you at night
- You experience prolonged sensitivity to heat or cold after the stimulus is removed
- A tooth has darkened following trauma
- An abscess, swelling, or sinus tract (a small pimple-like lesion on the gum) is present near a tooth
- X-rays reveal a dark shadow at the root tip, indicating infection in the bone
- A tooth has sustained significant trauma — even without visible damage, the pulp may be compromised
- A tooth requires a crown or large restoration and the pulp is considered at risk

Some patients experience no symptoms at all — infection is detected only on radiographic review. This underscores the importance of regular dental monitoring.

What to Expect: Step by Step

Root canal treatment at the Collins Street Specialist Centre is carried out using state-of-the-art equipment under high magnification, allowing our endodontists to work with a level of precision impossible with the naked eye.

****Initial assessment**** Your specialist will take a thorough history and perform clinical tests — including sensitivity testing and percussion — alongside digital radiographs. In some cases, cone-beam CT imaging may be recommended to map the canal anatomy in three dimensions before treatment begins.

****Anaesthesia**** Local anaesthetic is administered to ensure the tooth and surrounding area are thoroughly numb. The vast majority of patients are surprised by how comfortable the procedure is.

****Isolation**** A thin rubber sheet (dental dam) is placed around the tooth to maintain a clean, saliva-free field throughout treatment. This is essential for infection control and procedural accuracy.

****Microscope-guided access**** Our endodontists work under the ****Carl Zeiss OPMI PROergo surgical microscope****, which provides up to 20x magnification with co-axial illumination. This level of optical clarity allows identification of canal systems, calcifications, and hidden anatomy that would be missed at standard clinical magnification.

****Canal preparation**** Using ****MTwo and ProTaper rotary nickel-titanium instruments**** driven by the ****Dentsply X-Smart motor system****, the specialist carefully files and shapes each canal. Rotary systems allow precise, efficient preparation while minimising stress to the root. Electronic apex locators confirm working length to within fractions of a millimetre.

****Irrigation and disinfection**** Between instrumentation steps, canals are flushed with antimicrobial irrigants — typically sodium hypochlorite and EDTA — to dissolve organic debris and eliminate bacteria. This stage is critical to long-term success and cannot be rushed.

****Canal filling**** Once the canals are clean, dry, and shaped, they are sealed with ****BeeFill 2in1 warm vertical compaction****, which delivers biocompatible gutta-percha in a thermally softened state. Warm obturation adapts intimately to the canal walls, minimising voids and providing a superior seal against reinfection.

****Temporary or permanent access restoration**** Following obturation, the access cavity is sealed. Your specialist will communicate their recommendations to your referring dentist regarding timing and type of final restoration.

Treatment may be completed in one or two appointments, depending on the complexity of the case, the degree of infection present, and individual patient factors.

Recovery and Aftercare

Mild soreness around the treated tooth is normal for a few days after root canal treatment, particularly when biting. This reflects the natural healing response of tissues surrounding the root tip and typically resolves without intervention. Over-the-counter analgesics (ibuprofen or paracetamol) are usually sufficient.

Important aftercare points:

- ****Avoid chewing on the treated tooth**** until the final restoration is placed. An unrestored tooth is vulnerable to fracture.
- Take any prescribed antibiotics for the full course if infection was present.
- Contact your specialist if pain intensifies beyond the first 48 hours, swelling develops, or the temporary filling dislodges.
- ****Proceed promptly with final restoration**** — your specialist will advise whether a

crown, onlay, or composite build-up is appropriate. A permanent restoration protects both the tooth structure and the root canal seal.

Most patients return to normal activities the same day or the following morning.

Why See a Specialist Endodontist?

Root canal treatment sounds straightforward in principle; in practice, it demands a level of anatomical knowledge, technical precision, and specialised equipment that goes well beyond the scope of general dental practice.

A registered specialist endodontist has completed an additional three or more years of postgraduate training in endodontic diagnosis, treatment, and research beyond their dental degree. This training is specifically recognised by the Dental Board of Australia. All specialists at the Collins Street Specialist Centre hold this registration, which can be verified independently through AHPRA (Australian Health Practitioner Regulation Agency).

The case for specialist care is most compelling in complex situations: calcified or curved canals, previously treated teeth, multiple canals, teeth with uncertain prognosis, or when the general dentist has encountered difficulty. At CSSC, our specialists manage the full spectrum — from routine first-time treatments to highly complex cases referred from across Victoria.

High-magnification microscopy is the single most significant advantage of specialist endodontic practice. The Carl Zeiss OPMI PROergo used at CSSC is the same class of surgical microscope used in neurosurgery. Its use is standard practice for every procedure in our department.

Our Specialists

Root canal treatment at the Collins Street Specialist Centre is performed by our team of four registered specialist endodontists, each with advanced training and substantial clinical experience:

****Dr Gregory Tilley**** BSc (Melb), LDS (Vic), FRACDS, MRACDS (Endo) With over 35 years of specialist endodontic experience, Dr Tilley is one of Australia's most senior endodontists. An Honorary Senior Fellow of the University of Melbourne, he has lectured nationally and internationally and has served as a consultant on endodontic instrument and materials development.

****Prof Chankhrit Sathorn**** DDS, Grad.Dip.Dent, DClinDent, PhD, MRACDS (Endo) An Adjunct Professor of Endodontics at La Trobe University, Prof Sathorn brings an evidence-based and research-informed approach to clinical practice. He serves on the editorial boards of the Journal of Endodontics, International Endodontic Journal, and Dental Traumatology, among others.

****Dr Aovana Timmerman**** BSc (Melb), FRACDS, DCD (Melb), GCertClinTeach, MRACDS (Endo) Dr Timmerman is a clinical demonstrator in the University of Melbourne DDS program and an examiner for the Royal Australasian College of Dental Surgeons. She is a recipient of the ANZAE JM Booth Award and has a particular clinical interest in dental traumatology. Dr Timmerman is fluent in Mandarin.

****Dr Areti Vrochari**** DDS, DrMedDent (Endo) Dr Vrochari trained in Greece and Germany, holding a doctorate in dental biomaterials from the Albert-Ludwigs-University Freiburg. She brings extensive expertise in contemporary restorative and endodontic dentistry and has authored clinical research and textbook chapters on all-ceramic restorations and restorative dentistry.

All specialists can be verified as registered specialists with AHPRA at www.ahpra.gov.au.

Related Treatments

A successfully treated root canal tooth still requires appropriate restorative protection. Our specialists work closely with colleagues at CSSC across disciplines to ensure coordinated ongoing care:

- **Dental Crowns** (/prosthodontics/dental-crowns/) — Most root-treated posterior teeth require a crown to protect against fracture. Our specialist prosthodontists provide this restoration. - **Dental Bridges** (/prosthodontics/dental-bridges/) — Where root canal treatment cannot save a tooth, a bridge may be an option for replacement. - **Root Canal Retreatment** (/endodontics/root-canal-retreatment/) — When a previously treated root canal develops recurrent infection or symptoms. - **Cracked Teeth** (/endodontics/cracked-teeth/) — Cracking is a common cause of pulp disease and often presents alongside the need for root canal treatment.

No referral is required to see a specialist endodontist at the Collins Street Specialist Centre. Contact us on (03) 9650 2726 to arrange an assessment, or ask your general dentist to provide a written referral.