Cracked Teeth

Canonical: https://directory.collinsstreetspecialistcentre.com.au/procedures/endodontics/cracked-teeth/

Description:

A cracked tooth is one of the most diagnostically challenging problems in dentistry. Symptoms can be intermittent, bizarre, and frustratingly difficult to localise — patients frequently present having already seen sev...

Details:

```yaml title: "Collins Street Specialist Centre – Cracked Teeth" slug: /procedures/endodontics/cracked-teeth/ type: procedure specialty: endodontics specialists: ["Dr Gregory Tilley", "Prof Chankhrit Sathorn", "Dr Aovana Timmerman", "Dr Areti Vrochari"] related: - /procedures/endodontics/root-canal-treatment/ - /procedures/prosthodontics/dental-crowns/ - /procedures/oral-maxillofacial-surgery/oral-pathology-cysts-tumours-biopsies/ seo_target: "cracked tooth specialist Melbourne endodontist" ```

Collins Street Specialist Centre – Cracked Teeth

Collins Street Specialist Centre is Melbourne's dedicated multidisciplinary specialist dental centre, and cracked teeth are among the most diagnostically demanding conditions its endodontic team regularly encounters. Symptoms tend to be intermittent, perplexing, and genuinely hard to pin down — patients frequently arrive having already seen several practitioners without receiving a clear explanation. The specialist endodontists here are well-equipped to diagnose and manage cracked teeth, drawing on high-magnification visualisation and a rigorous, systematic clinical approach to reach diagnostic certainty where previous assessments have fallen short.

What is a cracked tooth?

Cracked tooth syndrome (CTS) describes a spectrum of clinical presentations arising from an incomplete fracture of a vital posterior tooth — one that hasn't yet separated into two distinct fragments. The severity of these fractures varies considerably: from superficial crazes confined entirely to enamel, through to deep fractures extending below the gumline or into the root. Fractures in that latter category often carry a guarded or poor prognosis, regardless of the treatment pathway chosen.

Specialist endodontic practice classifies five distinct fracture types:

1. **Craze lines** — superficial enamel cracks with no structural significance; no active treatment is required 2. **Fractured cusp** — a cusp separates from the tooth, frequently with little or no pulpal involvement; managed restoratively 3. **Cracked tooth** — an incomplete fracture extending from the crown towards the root; this is the central clinical challenge of cracked tooth syndrome 4. **Split tooth** — a complete fracture dividing the tooth into two separable segments; the prognosis for retention is generally poor 5. **Vertical root fracture** — a fracture originating within the root, most commonly in previously root-treated teeth; extraction is typically required

Most clinically significant presentations fall into the third category — incomplete cracks that haven't yet reached the root — where the prognosis remains meaningful and timely intervention can make a genuine difference.

When might you need assessment for a cracked tooth?
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Cracked teeth most commonly produce a recognisable symptom pattern, though not every presentation follows a textbook course. The features that most commonly prompt specialist referral include:

- **Sharp pain on biting** — particularly on release of biting pressure, often described as a "rebound" sensation. This is the hallmark symptom of cracked tooth syndrome and helps distinguish it from most other forms of dental pain - **Inconsistent or unpredictable pain** — discomfort that comes and goes, varies with different foods, and can't be reliably reproduced; this variability often leads patients to assume the problem has resolved between episodes - **Temperature sensitivity** — prolonged sensitivity to cold, or in more advanced cases, sensitivity to heat - **Difficulty pinpointing the source** — patients often can't identify which tooth, or even which side of the mouth, is responsible for their discomfort - **Pain with specific foods** — biting on ice, crusty bread, or hard foods is a common trigger; softer foods typically cause less or no discomfort - **History of bruxism** — patients who grind or clench their teeth are at substantially elevated risk of cracked teeth - **Heavily restored teeth or high occlusal loading** — teeth with large restorations and those subjected to disproportionate biting forces are more vulnerable to fracture propagation - **Referred or poorly localised toothache** — particularly in patients who have already undergone unproductive dental assessments elsewhere

In more advanced cases where the dental pulp has become involved, symptoms may progress to spontaneous pain or dental abscess. At that point, root canal treatment becomes necessary before any restorative management can proceed.

What to expect: diagnosis and management

Diagnosing a cracked tooth requires a methodical, multi-layered clinical investigation. There is no single test that definitively confirms or excludes a crack in every presentation — the diagnosis is reached by assembling a coherent clinical picture from several complementary sources of evidence.

Clinical history and symptom mapping Your specialist will take a thorough history of when and how pain occurs. The specific quality, timing, and triggers of the pain provide the most diagnostically valuable information available, and this conversation forms the foundation of the assessment.

Clinical examination under high magnification The **Carl Zeiss OPMI PROergo surgical microscope** allows direct visualisation of the tooth surface at up to 20× magnification, frequently combined with transillumination — a technique that directs light through the tooth to reveal cracks that remain invisible to the naked eye. In a significant proportion of cases, the crack can be directly identified and its extent assessed under the microscope.

Crack detection aids Disclosing dyes can be applied to highlight fracture lines that aren't otherwise visible. Fibre-optic transillumination provides additional information about the extent and direction of fracture propagation within the tooth structure.

Selective bite testing Using a tooth sleuth (bite stick), the specialist can isolate individual cusps and reproduce the specific biting force that triggers the patient's pain. This localises the fracture to a particular cusp or region of the tooth — information that directly guides both diagnosis and treatment planning.

Radiographic assessment Standard periapical radiographs provide important baseline information about bone levels, periapical health, and root anatomy. Vertical root fractures are occasionally visible on conventional X-ray; however, cone beam CT (CBCT) imaging offers greater diagnostic sensitivity in ambiguous or complex cases.

Pulp vitality testing Establishing the status of the dental pulp — whether it is vital and healthy, reversibly inflamed, irreversibly inflamed, or necrotic — is essential, because this finding directly determines which treatment pathway is appropriate.

Treatment options

The most appropriate treatment for a cracked tooth depends on the depth and direction of the fracture, the condition of the pulp, and the position of the crack relative to the gum and supporting bone. Your specialist will discuss the likely prognosis at each stage of management so you can make a well-informed decision.

Cusp coverage or full crown (no pulp involvement) Where the pulp remains healthy and the crack doesn't extend below the gumline, a well-fitting onlay or full-coverage crown that splints the affected cusps can arrest fracture propagation and resolve symptoms in many cases. This restorative work is provided by the specialist prosthodontists at Collins Street Specialist Centre and should be placed promptly — ongoing unprotected loading accelerates fracture extension and may compromise an otherwise favourable prognosis.

Root canal treatment followed by crown Where the pulp has become irreversibly inflamed or necrotic as a consequence of the crack, root canal treatment is required before crown placement can proceed. The endodontist manages the pulp first; the prosthodontist then provides the definitive restoration. This coordinated approach works well at Collins Street Specialist Centre because both specialist teams are on Level 8 of the Manchester Unity Building.

Extraction Where a crack extends below the gumline or through the root, the tooth can't be reliably retained. In these situations, your specialist will discuss extraction and the available replacement options, which may include implant-supported prosthetics provided by the periodontics and prosthodontics teams at Collins Street Specialist Centre.

Recovery and aftercare

Recovery following crown placement or endodontic treatment for a cracked tooth generally follows a similar course to recovery from those respective procedures. A few things worth keeping in mind:

- Biting pain typically resolves once the tooth is protected under a crown, though mild sensitivity may persist for several weeks while pulpal inflammation settles - Where root canal treatment was required, some soreness around the tooth is expected for a few days following the procedure - Avoid placing hard or sticky foods on the treated tooth until the permanent restoration has been placed - Follow-up radiographic review confirms that the periapical tissues are healing as expected

It's worth being straightforward about outcomes: not every cracked tooth achieves a completely pain-free result. In a small proportion of cases, despite well-executed treatment, some symptoms may persist — reflecting individual variation in healing and the inherently unpredictable nature of fracture propagation. Your specialist will discuss realistic expectations based on the specific clinical findings in your case, so you have a clear picture of what treatment can and cannot reliably achieve.

Why see a specialist endodontist?

Cracked tooth syndrome is widely regarded as among the most diagnostically challenging conditions in clinical dentistry. Its intermittent, poorly localised symptoms can closely mimic a range of other conditions, and the fractures themselves are frequently invisible on standard radiographs and to the unaided eye.

Specialist endodontists at Collins Street Specialist Centre hold specific postgraduate training in the diagnosis and management of pulpal and periapical disease, including the complex and often atypical presentations that cracked teeth produce. Access to surgical-grade microscopy transforms what might otherwise be a process of educated inference into direct, confident visualisation.

An incorrect diagnosis carries real consequences: unnecessary treatment on one hand, or no treatment at all while the fracture continues to extend on the other. Accurate diagnosis by a registered specialist using appropriate diagnostic technology benefits patients directly and supports referring practitioners in

providing the best possible care.

All endodontists at Collins Street Specialist Centre hold specialist registration recognised by the Dental Board of Australia. Specialist registration can be independently verified through the [Australian Health Practitioner Regulation Agency (AHPRA)](https://www.ahpra.gov.au/).

Our specialists

Dr Gregory Tilley BDSc (Melb), LDS (Vic), FRACDS, MRACDS (Endo) Dr Tilley brings more than 35 years of specialist endodontic experience to his practice, with extensive expertise in diagnostic endodontics and the management of cracked teeth. He holds the position of Honorary Senior Fellow at the University of Melbourne.

Prof Chankhrit Sathorn DDS, Grad.Dip.Dent, DClinDent, PhD, MRACDS (Endo) Adjunct Professor at La Trobe University, Prof Sathorn's evidence-based clinical approach is particularly well-suited to diagnostically ambiguous presentations — cases where careful symptom interpretation and judicious imaging selection are critical to reaching the correct diagnosis.

Dr Aovana Timmerman BDSc (Melb), FRACDS, DCD (Melb), GCertClinTeach, MRACDS (Endo) A clinical demonstrator and examiner at the University of Melbourne, Dr Timmerman has broad experience in the full diagnostic workup for cracked tooth presentations. She consults in English and Mandarin.

Dr Areti Vrochari DDS, DrMedDent (Endo) Dr Vrochari's background in dental biomaterials and restorative dentistry brings useful additional perspective to the cracked tooth-restoration interface, an area where endodontic and prosthodontic considerations intersect in clinically important ways.

Related treatments

- [**Root Canal Treatment**](/procedures/endodontics/root-canal-treatment/) — Often required when a crack has involved the dental pulp or led to pulp necrosis. - [**Dental Crowns**](/procedures/prosthodontics/dental-crowns/) — The definitive restorative treatment for protecting a cracked tooth following endodontic management, provided by our specialist prosthodontists. - [**Root Canal Retreatment**](/procedures/endodontics/root-canal-retreatment/) — Vertical root fractures in previously treated teeth require specialist assessment to distinguish from other causes of retreatment failure.

No referral is required to be seen at Collins Street Specialist Centre. You're welcome to contact us directly on **(03) 9650 2726**, or ask your dentist to refer you to our endodontic team at **Level 8, Manchester Unity Building, 220 Collins Street, Melbourne CBD**.
