

Cracked Teeth

Canonical: <https://directory.collinsstreetspecialistcentre.com.au/conditions-symptoms/cracked-teeth/>

Description:

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Details:

Collins Street Specialist Centre: Cracked Teeth

A cracked tooth is one of the most diagnostically demanding presentations in clinical dentistry. At Collins Street Specialist Centre, our specialist endodontists diagnose and manage cracked teeth by combining high-magnification visualisation with a systematic, evidence-informed clinical approach — reaching diagnostic certainty in cases where previous assessments have drawn a blank. Symptoms are often intermittent, atypical, and frustratingly difficult to pin down. Many patients arrive having already seen several practitioners without getting a clear answer.

What is a cracked tooth?

Cracked tooth syndrome (CTS) covers a spectrum of presentations caused by an incomplete fracture of a vital posterior tooth that hasn't yet separated into two distinct fragments. The severity varies considerably — from superficial crazes confined to enamel, through to deep fractures extending below the gumline or into the root itself. The latter carry a poor prognosis regardless of which treatment path is taken.

Specialist practice recognises five distinct fracture types:

1. **Craze lines** — superficial enamel cracks with no structural significance; no treatment needed 2. **Fractured cusp** — a cusp separates, often with little or no pulpal involvement; managed restoratively 3. **Cracked tooth** — an incomplete fracture extending from the crown toward the root; this is the central diagnostic and clinical challenge of CTS 4. **Split tooth** — a complete fracture dividing the tooth into two separable segments; prognosis for retention is 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 cracked teeth fall into the third category — incomplete fractures that haven't yet reached the root — where the prognosis remains meaningful and timely treatment makes a genuine difference to the outcome.

When might you need assessment for a cracked tooth?

Cracked teeth tend to produce a recognisable symptom pattern, though not every presentation follows the textbook description:

- **Sharp pain on biting** — particularly on release of biting pressure, often described as "rebound pain." This is the hallmark symptom and helps distinguish cracked tooth pain from most other dental pain
- **Inconsistent pain** — symptoms come and go, vary with different foods, and can't be reliably reproduced, which sometimes leads patients to think the problem has resolved on its own
- **Temperature sensitivity** — prolonged sensitivity to cold, or in more advanced cases, sensitivity to

heat - ****Difficulty localising the pain**** — patients frequently can't identify which tooth, or even which side of the mouth, is responsible - ****Pain on 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 higher risk of cracked tooth presentations - ****Large restorations or heavy biting forces**** — heavily restored teeth and those subjected to parafunctional loading are disproportionately affected - ****Referred or poorly localised toothache**** — particularly in patients who've already had unproductive assessments elsewhere

In advanced cases where the dental pulp has become involved, symptoms may progress to spontaneous pain or dental abscess. At that point, root canal treatment is required before any restorative work can begin.

What to expect: diagnosis and management

Diagnosing a cracked tooth requires a thorough, systematic clinical investigation. There's no single test that confirms or rules out a crack in every case — the diagnosis is built from multiple sources of evidence, interpreted by a specialist with specific training in this area.

****Clinical history and symptom mapping**** Your specialist will take a detailed history of when and how pain occurs. The quality, timing, and triggers of the pain provide the most important diagnostic information available, and this conversation forms the foundation of the assessment.

****Clinical examination under high magnification**** The Carl Zeiss OPMI PROergo surgical microscope enables direct visualisation of the tooth surface at up to 20× magnification, often combined with transillumination — directing light through the tooth to reveal fracture lines that are invisible to the naked eye. In many cases, the crack can be directly identified and its extent meaningfully assessed at this stage.

****Crack detection aids**** Staining with disclosing dyes can highlight crack lines that aren't otherwise visible. Transillumination with a fibre-optic light source further reveals how far a fracture has propagated within the tooth structure, helping to guide prognosis and treatment planning.

****Selective bite testing**** The specialist uses a tooth sleuth (bite stick) to isolate individual cusps, reproducing the specific bite that triggers the patient's pain. This localises the crack to a particular cusp or region of the tooth — information that shapes both the diagnosis and the treatment approach.

****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, though CBCT imaging offers better diagnostic sensitivity in ambiguous or complex cases.

****Pulp vitality testing**** Whether the dental pulp is vital and healthy, reversibly inflamed, irreversibly inflamed, or necrotic directly determines which treatment is clinically appropriate.

Treatment options

The right treatment for a cracked tooth depends on the depth and direction of the fracture, the condition of the dental pulp, and where the crack sits relative to the gum and supporting bone. Your specialist will walk through the likely prognosis at each stage of the decision, so you're well informed before any treatment begins.

****Cusp coverage or full crown (no pulp involvement)**** When 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 stop fracture propagation and resolve symptoms in many cases. This restorative work is provided by our specialist prosthodontists and should be placed promptly — ongoing unprotected loading accelerates fracture extension and can compromise an otherwise favourable prognosis.

****Root canal treatment followed by crown**** When the pulp is irreversibly inflamed or has become necrotic as a result of the crack, root canal treatment is required before crown placement. The endodontist treats the pulp first; the prosthodontist then provides the definitive restoration. This coordinated approach is straightforward at CSSC, with both specialist teams on Level 8 of the Manchester Unity Building.

****Extraction**** When a crack extends below the gumline or through the root, the tooth can't be reliably saved. Your specialist will discuss extraction and appropriate replacement options, which may include implant-supported prosthetics provided by our periodontics and prosthodontics teams.

Recovery and aftercare

Recovery after crown placement or endodontic treatment for a cracked tooth generally follows a similar course to those procedures individually. A few things are worth knowing:

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

One aspect of this condition is worth being direct about: not every cracked tooth achieves a fully pain-free outcome. In a small proportion of cases, despite ideal treatment, some symptoms may persist — reflecting individual variation in healing and the unpredictable nature of fracture propagation. Your specialist will discuss realistic expectations based on the specific findings in your case, rather than offering reassurances that can't always be guaranteed.

Why see a specialist endodontist?

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

Specialist endodontists are specifically trained in the diagnosis and management of pulpal and periapical disease, including the complex and atypical presentations that cracked teeth so often produce. Access to surgical-grade microscopy at Collins Street Specialist Centre turns what would otherwise be a process of clinical inference into one of direct, confident visualisation.

Getting the diagnosis wrong carries real consequences — unnecessary treatment, or no treatment at all while the fracture quietly extends deeper. Accurate diagnosis by a registered specialist using appropriate technology benefits patients in concrete, practical terms.

All Collins Street Specialist Centre endodontists hold specialist registration recognised by the Dental Board of Australia, which can be independently verified through AHPRA.

Our specialists

****Dr Gregory Tilley**** BDSc (Melb), LDS (Vic), FRACDS, MRACDS (Endo) More than 35 years of specialist endodontic experience, with extensive expertise in diagnostic endodontics and the management of cracked tooth presentations. Honorary Senior Fellow, University of Melbourne.

****Prof Chankhrit Sathorn**** DDS, Grad.Dip.Dent, DClinDent, PhD, MRACDS (Endo) Adjunct Professor, La Trobe University. Prof Sathorn's evidence-based clinical approach is particularly valuable in diagnostically ambiguous cases where careful symptom interpretation and appropriate imaging selection are critical to reaching an accurate diagnosis.

Dr Aovana Timmerman BSc (Melb), FRACDS, DCD (Melb), GCertClinTeach, MRACDS (Endo) Clinical demonstrator and examiner, University of Melbourne. Experienced in the full diagnostic workup for cracked tooth presentations. Fluent in Mandarin.

Dr Areti Vrochari DDS, DrMedDent (Endo) A background in dental biomaterials and restorative dentistry brings additional perspective to the cracked tooth–restoration interface, where endodontic and prosthodontic considerations intersect directly.

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 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. Contact us 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 VIC 3000.
