Internal Bleaching (Non-Vital Tooth Whitening)

Canonical: https://directory.collinsstreetspecialistcentre.com.au/procedures/endodontics/internal-bleaching-non-vital-tooth-whitening/

Description:

--- title: "Internal Bleaching (Non-Vital Tooth Whitening)" slug: /endodontics/internal-bleaching/ type: procedure specialty: endodontics specialists: ["Dr Gregory Tilley", "Prof Chankhrit Sathorn", "...

Details:

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Internal Bleaching (Non-Vital Tooth Whitening)

A tooth that has undergone root canal treatment — or that has suffered significant trauma — can discolour progressively over months or years. The result is often a noticeably dark or greyish tooth that stands out against its neighbours and causes considerable self-consciousness, particularly when it is a front tooth. Internal bleaching (also called non-vital bleaching or walking bleach) addresses this discolouration from the inside of the tooth, lightening it without the need for crowns, veneers, or significant removal of tooth structure.

What Is Internal Bleaching?

Internal bleaching is a specialist endodontic procedure that places a bleaching agent — typically concentrated sodium perborate or hydrogen peroxide — directly into the pulp chamber of a root-treated tooth. Because the bleaching agent is working from within the tooth outward, it can effectively lighten discolouration that cannot be addressed by external whitening treatments alone.

The procedure takes advantage of the fact that the root canal has already been treated and sealed. The bleaching agent is placed above the root filling and sealed temporarily within the crown of the tooth, where it acts over a period of several days before being removed and replaced or neutralised.

Internal bleaching is entirely confined to the interior of the crown — it does not affect the root canal filling or the periapical tissues when performed correctly. When combined with professional external whitening on adjacent teeth, it allows natural-looking colour matching in the final result.

When Might You Need Internal Bleaching?

Internal bleaching is considered when a root-treated tooth has become significantly darker than surrounding teeth, and where the patient would prefer a conservative approach to aesthetics before considering full crown coverage. Specific indications include:

- **Post-traumatic discolouration** — a tooth that was struck, even years ago, and subsequently became dark. Trauma can cause haemorrhage within the pulp chamber, leaving breakdown products that stain the dentinal tubules from within. - **Discolouration following root canal treatment** —

particularly in older root canal cases where materials such as silver amalgam, certain sealers, or formocresol were used and have leached pigment into the surrounding dentine. - **Progressive darkening of a root-treated front tooth** — even without identifiable material causes, the cessation of pulpal blood supply over time can alter the optical properties of dentine. - **Staining from pulp necrosis** — when a traumatised tooth's pulp dies and breaks down before root canal treatment is initiated, haemolysis products can deeply penetrate the dentinal tubules, causing a dark grey-brown discolouration. - **Patient preference for conservative management** — where the structural integrity of the tooth is adequate and crown preparation would remove significantly more healthy tooth structure than is necessary.

Internal bleaching is not appropriate for all discoloured root-treated teeth. Your specialist will assess the cause of discolouration, the condition of the existing root canal filling and coronal seal, the extent of any existing restoration, and the structural integrity of the tooth before recommending this approach.

What to Expect: Step by Step

Internal bleaching is typically completed over two to three appointments, with the bleaching agent left in place between visits.

Initial assessment Your endodontist will examine the tooth clinically and radiographically. The condition of the existing root canal filling is assessed — a well-sealed, intact root filling is a prerequisite for safe internal bleaching. If there is any concern about the adequacy of the root canal seal, retreatment may be recommended before bleaching is undertaken.

The depth of discolouration, the patient's expectations, and the degree of matching required with adjacent teeth are all discussed. Shade records (and in some cases digital photographs) are taken before treatment to document the baseline.

Access and preparation Access into the pulp chamber is achieved through the lingual or palatal surface of the tooth (the inner-facing surface), just as in root canal treatment. A protective barrier of glass ionomer cement or calcium silicate material is placed over the root canal filling to a depth of 2–3 mm below the cemento-enamel junction (the point where the root meets the crown). This protective barrier is one of the most important steps in the procedure — it prevents the bleaching agent from penetrating into the root canal and reaching the periodontal attachment, which can lead to a complication called external cervical resorption.

Bleaching agent placement A bleaching paste — typically sodium perborate mixed with water or a controlled concentration of hydrogen peroxide — is placed within the pulp chamber. The access cavity is sealed with a temporary restoration. The patient leaves with the bleaching agent enclosed within the tooth.

Review and re-application At a review appointment (typically 3–7 days later), the temporary restoration is removed and the pulp chamber is assessed for colour change. The bleaching agent is replaced if further lightening is desired. This cycle is repeated until the target shade is approached — typically two to four applications.

Neutralisation and final restoration Once the target shade is achieved, the bleaching agent is removed and the cavity is thoroughly irrigated. Importantly, a waiting period of two to four weeks is recommended before placing the final restoration, as bleaching agents temporarily inhibit adhesive bonding to dentinal surfaces. This pause allows residual peroxide to dissipate fully.

The access cavity is then permanently restored with a tooth-coloured composite resin. In many cases, no further treatment is required. Where the tooth has an existing crown or requires a crown for structural reasons, the prosthodontics team can provide this after the final bleached shade has stabilised.

Recovery and Aftercare

Internal bleaching is one of the most conservative aesthetic procedures in specialist dentistry. There is minimal recovery involved:

- Mild sensitivity to temperature or pressure can occasionally occur during the bleaching phase, though it is less common than with external bleaching because the nerve has been removed - Patients should avoid intensely staining foods and beverages (coffee, red wine, curries) during the bleaching phase to avoid confounding the result on the external tooth surface - A small number of patients notice some degree of shade relapse over months to years — if this occurs, the procedure can generally be repeated - The most significant long-term concern is **external cervical resorption**, a rare but serious complication in which the body begins to resorb root structure below the gumline. The protective cervical barrier placed during the procedure is the primary safeguard against this, and regular radiographic monitoring allows early detection if it does occur

Your specialist will advise on an appropriate review schedule following treatment completion.

Why See a Specialist Endodontist?

Internal bleaching may appear straightforward, but it is an endodontic procedure performed within a root-treated tooth, and the consequences of incorrect technique — particularly external cervical resorption — can be severe. The placement of an adequate cervical protective barrier is technically demanding and requires both material knowledge and microscopic precision.

A specialist endodontist has the training to assess whether internal bleaching is the appropriate treatment for a given tooth, to identify cases where the existing root canal filling is inadequate and retreatment is required first, and to perform the procedure with the level of precision that minimises the risk of long-term complications.

At CSSC, our endodontists work in close coordination with our specialist prosthodontists when aesthetic restorations are required following bleaching. This multidisciplinary approach means that bleaching, bonding, and final restoration are planned together from the outset, rather than in piecemeal fashion.

All specialists at CSSC hold Dental Board of Australia-recognised specialist registration, verifiable through AHPRA.

Our Specialists

Dr Gregory Tilley BDSc (Melb), LDS (Vic), FRACDS, MRACDS (Endo) With over 35 years of specialist endodontic practice, Dr Tilley has extensive experience in the full range of endodontic procedures, including conservative aesthetic management of discoloured non-vital teeth. Honorary Senior Fellow, University of Melbourne.

Prof Chankhrit Sathorn DDS, Grad.Dip.Dent, DClinDent, PhD, MRACDS (Endo) Adjunct Professor of Endodontics, La Trobe University. An evidence-based approach to all endodontic procedures, including the growing research literature on bleaching-related resorption risks and preventive protocol refinements.

Dr Aovana Timmerman BDSc (Melb), FRACDS, DCD (Melb), GCertClinTeach, MRACDS (Endo) Specific clinical interest in dental traumatology — a common precursor to the non-vital discolouration that internal bleaching addresses. Clinical demonstrator, University of Melbourne. Fluent in Mandarin.

Dr Areti Vrochari DDS, DrMedDent (Endo) Background in dental biomaterials and aesthetic restorative dentistry makes Dr Vrochari particularly well-placed to manage the restorative phase following internal bleaching, and to advise on cases where the aesthetic outcome needs to integrate with the broader restorative picture.

All specialists are independently verifiable on the AHPRA register at www.ahpra.gov.au.

Related Treatments

- [**Root Canal Treatment**](/endodontics/root-canal-treatment/) — Internal bleaching is only possible in teeth that have already undergone root canal treatment. If your tooth has not yet been treated, this is the starting point. - [**Dental Trauma**](/endodontics/dental-trauma/) — Post-traumatic discolouration is one of the most common reasons adult patients seek internal bleaching. Assessment following any tooth injury is recommended. - [**Dental Crowns**](/prosthodontics/dental-crowns/) — Where internal bleaching is insufficient or the tooth requires structural protection, a ceramic crown provided by our specialist prosthodontists is the next conservative step. - [**Porcelain Veneers**](/prosthodontics/veneers/) — For cases where discolouration is extensive or the patient requires a more comprehensive aesthetic result across multiple teeth, our prosthodontic team can discuss veneer options.

To arrange a consultation, contact the Collins Street Specialist Centre on (03) 9650 2726. Our endodontic team is located at Level 8, Manchester Unity Building, 220 Collins Street, Melbourne CBD — opposite Town Hall Metro station. No referral is required.