

## Internal bleaching of non-vital teeth

It is not uncommon for an individual with generally white teeth to have one tooth that is noticeably discolored compared to the adjacent teeth. Tooth discoloration may result from either external or internal staining. External stains are located on the outer tooth surfaces and can usually be removed by routine prophylactic procedures or vital bleaching. Internal discolorations arise from within the tooth and typically involve the dentin. The most common causes of internal staining are trauma and root canal treatment. In the case of acute trauma, the tooth may appear red due to internal bleeding within the dentin.



In some cases the trauma responsible for tooth injury occurred many years ago, perhaps during childhood. In those cases, the tooth may appear dark brown or gray due to dentinal staining by blood breakdown products. But regardless of when the



traumatic event occurred, tooth discoloration is often associated with a non-vital pulp. Therefore, tooth vitality tests and a

radiograph are indicated as root canal treatment may be necessary.

Once root canal treatment is completed, or if a pre-existing root canal filling is satisfactory, internal bleaching can render the tooth closer to its original color. The

“walking bleach” method of internal bleaching involves placing a mild oxidizing agent (e.g., sodium perborate) in the pulp chamber to break down the organic pigments. The chamber is sealed with a temporary filling and the oxidant is given 2-3 weeks to work. If one round of bleaching is sufficient, the oxidant is removed and the tooth is permanently restored. If the patient desires further whitening, the oxidant is replaced and the bleaching is repeated. In extreme cases, like the one shown below, several rounds of bleaching may be needed.



In a recent issue of the *Journal of Endodontics* (32:376-378) it was reported that in two-thirds of internally-bleached teeth, the color remained stable for up to 16 years and there were no incidences of internal or external resorption.

Internal bleaching is a safe and effective means of whitening root canal-treated teeth. If any of your patients have discolored teeth that might benefit from internal bleaching, please have them contact one of our offices to schedule a consultation.

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