



Dentin Hypersensitivity

Managing and Treating

Canadian Advisory Board on Dentin Hypersensitivity

The high prevalence of dentin hypersensitivity, combined with continued underreporting and underdiagnosis, has intensified the need to focus on the management of this condition. Responding to that need, the Canadian Advisory Board on Dentin Hypersensitivity, a committee representing a broad range of dental care specialties, convened to determine best-practice recommendations.¹ Collectively, they evaluated the scientific evidence as well as condition-related knowledge gaps that were identified by an extensive national survey of 8,000 dental professionals (7% response rate). By contributing their own diverse expertise, the committee produced the first ever “Consensus-Based Recommendations for the Diagnosis and Management of Dentin Hypersensitivity,” to provide direction to the dental care profession.



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Management begins with removal of predisposing factors

Evidence suggests erosion is the most significant factor in the loss of tooth enamel and a key predisposition for the development of dentin hypersensitivity. Dietary acids from foods and beverages, such as citrus fruits and juices, wines and carbonated drinks are recognized as risk factors for erosion, as they play a critical role in the “softening” of enamel. While normal enamel is resistant to various stresses, such as



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toothbrushing with or without toothpaste, “softened” enamel becomes increasingly susceptible to physical forces such as abrasion, attrition or even abfraction.

Regardless of the predisposing factors and forces implicated in each patient’s dentin hypersensitivity, once diagnosed, management must begin with the removal of the factors that “soften” enamel. For many patients, changing dietary habits, oral hygiene or tooth grinding behaviour is difficult and presents a professional challenge when treating dentin hypersensitivity. While behaviour modification is critical to controlling exacerbation of the condition, the removal of risk factors alone may not be totally effective. Treating the pain may be the only recourse.

First-line treatment should be non-invasive and reversible

Available first-line treatments for dentin hypersensitivity are generally designed to reduce fluid flow in dentin tubules or block the nerve response in the pulp. Most treatments interrupt neural activation and pain transmission with potassium nitrate or potassium chloride, but there are also a variety of physical and chemical agents that reduce fluid flow by occluding the tubules themselves. Strontium chloride is an example of such an occluding agent. While procedures like mucogingival surgery, pulpectomy or the use of resins present viable treatment options, they are invasive and irreversible, and should be reserved for severe cases. With comfort, convenience and cost in mind, non-invasive and reversible alternatives should be recommended first to any patient experiencing dentin hypersensitivity.

The most convenient non-invasive and reversible treatment is one that can be initiated by patients at home.

The most convenient non-invasive and reversible treatment is one that can be initiated by patients at home, as part of their existing oral hygiene routine. Experience demonstrates that desensitizing toothpaste provides improvement for a majority of cases. As a result, the Consensus Report recognizes desensitizing toothpaste as an efficacious, inexpensive and non-invasive first-line treatment for preventing the pain of dentin hypersensitivity. It also notes that ongoing use of desensitizing toothpaste need not sacrifice cavity prevention, whitening, or other benefits that many patients seek in their regular toothpastes. The Consensus Recommendations do emphasize, however, that for best results, desensitizing toothpaste should be used properly. Considering the natural outward flow of fluid from the pulp toward the outer surface of dentin,² it is important to ensure that the right amount of active ingredient is applied, and over time, accumulates to build a protective barrier. Twice-daily brushing maintains the barrier, and prevents pain from coming back.

(There is no published evidence to support topical application or “dabbing.”) Dental care professionals need to instruct the patient before initiating treatment. An ongoing regimen of regular, twice-daily brushing is the only clinically supported method of application.

Follow-up helps achieve treatment success

Many patients use desensitizing toothpaste only when they feel tooth pain. Once the pain disappears, they return to their regular toothpaste until the next painful bout. If pain abates with treatment but recurs following treatment cessation, it may be an indication that the patient’s condition requires ongoing attention. Patients need to be instructed about the need for long-term treatment in such cases. Unless properly educated about their condition and its treatment, they may think treatment has been unsuccessful in preventing pain and mistakenly stop it altogether.

The need to follow up with those diagnosed with dentin hypersensitivity cannot be overstated. Only diligent care including pain prevention combined with long-term management will successfully treat the ongoing discomfort and ultimately help sufferers stay pain-free.

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1. Consensus-Based Recommendations for the Diagnosis and Management of Dentin Hypersensitivity. Canadian Advisory Board on Dentin Hypersensitivity. *J Can Dent Assoc* 2003;69(4):221-226.
2. Jain P, Vargas MA et al. Dentin desensitizing agents: SEM and X-ray microanalysis assessment. *Am J Dent* 1997;10:21-27.