

RECOGNIZING EDUCATIONAL ISSUES

Academic members of the board, representing both dentistry and dental hygiene, recommend that school curricula provide greater focus on the diagnosis and management of pain in general, with increased emphasis on dentin hypersensitivity.

Generally speaking, dental professionals' training in chronic pain appears to be limited, at times, offering little preparation for the challenges of assessment and counselling. Pain is recognized to be a complex and subjective perception, uniquely experienced by each individual. It can be assessed only indirectly, based on the patient's verbal and behavioural communication.³ The task appears straightforward, but it can be daunting, with patients' cultural and ethnic backgrounds also influencing the way they view and report discomfort. Inevitably, it is up to the practitioner to elicit descriptions of pain from the patient in terms of intensity, quality, duration, impact and personal meaning.

EMBRACING THE ADVISORY BOARD'S COMMITMENT

To help alleviate and possibly eliminate most patients' painful symptoms, broader educational initiatives for dental care professionals are required in the areas of diagnosis and management, for both acute and chronic pain. The Advisory Board's *Consensus-Based Recommendations for the Diagnosis and Management of Dentin Hypersensitivity* is a welcome beginning. In addition to defining practice recommendations, this report promotes professional awareness of the condition and greater responsibility for initiating communication with patients who may have dentin hypersensitivity. This invaluable guidance ensures a more effective management approach to one of the most common and misunderstood pain conditions in dentistry.

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The Canadian Advisory Board on Dentin Hypersensitivity was supported by an unrestricted educational grant from GlaxoSmithKline Consumer Healthcare.

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Dentin Hypersensitivity BULLETIN

Scientific Perspectives

ISSUE 3

The Dentin Hypersensitivity Bulletin is a Sensodyne® initiative designed to provide your busy practice with a convenient overview of the latest professional information regarding dentin hypersensitivity: events, trends, published materials, expert perspectives and commentary.

*In this issue, we report on the first ever practice recommendations, introduced by the Canadian Advisory Board on Dentin Hypersensitivity – a twelve-member panel of dentists and dental hygienists representative of general dental practice, specialist practice, academia and research from across Canada, as well as two international subject matter experts. Their resulting **Consensus-Based Recommendations for the Diagnosis and Management of Dentin Hypersensitivity** was recently published in the *Journal of the Canadian Dental Association*.¹*

As consulting dentist and editor of the Bulletin, I am confident that you will find the content informative and relevant to your practice when dealing with dentin hypersensitivity.

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Editor



FIRST-EVER RECOMMENDATIONS FOR TREATING A COMMON, BUT UNDERDIAGNOSED CONDITION

The new Canadian practice recommendations cite the results of an independent study involving a nationally representative sample of 683 Canadians, which highlighted that the prevalence of dentin hypersensitivity among adults aged 18 to 64 was approximately 30%. This percentage far exceeds the number of patients who are actually diagnosed and treated.

To understand the disparity between high prevalence and low treatment rates, a

large survey was conducted among Canadian dentists and dental hygienists, focusing on current clinical knowledge and practice with respect to dentin hypersensitivity. The survey revealed significant misconceptions that contribute to this situation. One of the most disconcerting findings was the tendency of dental professionals to rely on patients to report the condition. Furthermore, even when patients communicate their pain, there remains some confusion among

practitioners regarding proper diagnosis and management, as well as appropriate treatment options.

The Canadian Advisory Board's recommendations introduce several important recommendations to improve awareness and management of dentin hypersensitivity. In fact, these recommendations serve as the *first* available practice standards for dealing with what some refer to as the "common cold" of dentistry.



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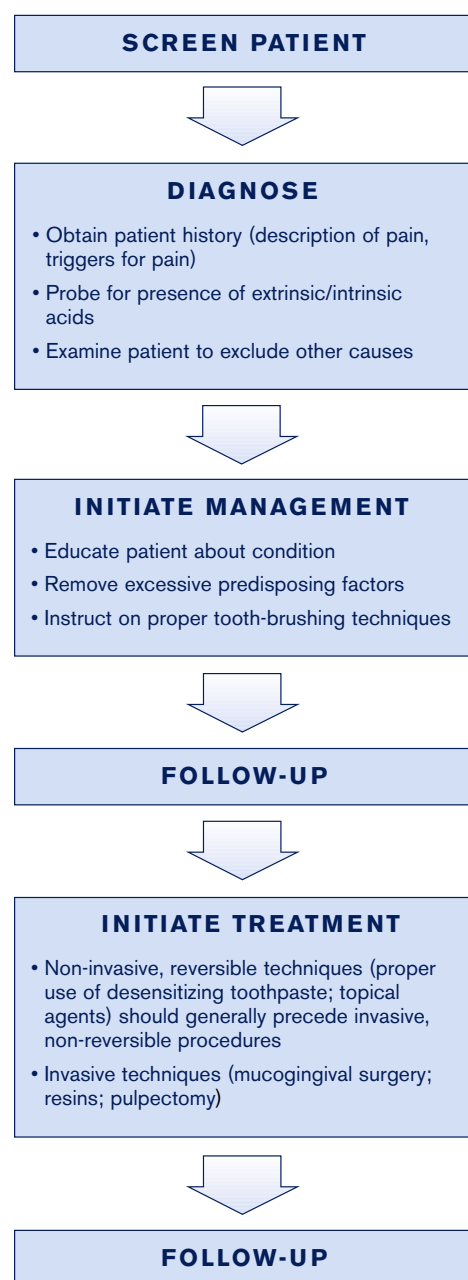
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EXPLORING THE RECOMMENDATIONS

A BLUEPRINT FOR MANAGEMENT AND TREATMENT

The Canadian Advisory Board developed an easy-reference algorithm for the management and treatment of dentin hypersensitivity, to help dental care professionals manage this highly prevalent condition efficiently and effectively.

The following algorithm is an abbreviated version of the Consensus-Based Recommendations algorithm, presented in full on the enclosed supplementary insert.¹



SCREENING

It is well recognized that pain is a strong driving force in prompting patients to visit the dental office. Yet dentin hypersensitivity is surprisingly underreported by patients, and despite the high prevalence, it is frequently undiagnosed and untreated.

At the 2002 FDI World Dental Congress, international experts presented various hypotheses in an effort to explain this phenomenon of underreporting. Among other things, they postulated that many patients assume their condition is a natural occurrence developing with age, or that it is untreatable. Since the pain of sensitive teeth is intermittent and transient, patients may hesitate to “bother” the dental care professional with a complaint they unwittingly consider “trivial”.² Pain research indicates, however, that when pain is left untreated, it can increase in intensity and extent. In healthcare today, new attitudes and expectations, fostered by this research, encourage professionals to treat all pain aggressively, even pre-emptively.³

No pain should be considered trivial. Accordingly, the Consensus Recommendations emphasize the need to routinely screen for dentin hypersensitivity. While the report recognizes that communication is a shared responsibility between patients and dental care professionals, it encourages professionals to take the initiative in the dialogue on pain.

Patients may hesitate to discuss their condition, but the pain does affect them. Pain can cause them to *change what they eat and drink, or even how they care for their teeth*. Dental professionals are often unaware that patients with dentin hypersensitivity may even be deterred from keeping regular dental and hygiene appointments because of the discomfort caused by even basic routine hygiene procedures.²

DIAGNOSIS

Dentin hypersensitivity, also commonly referred to as dentin sensitivity, is defined as “pain arising from exposed dentin in response to stimuli typically thermal, evaporative, tactile, osmotic or chemical and which cannot be ascribed to any other form of dental defect or disease.”

(JCDA 2003)

Based on this very definition, the diagnosis is inevitably one of exclusion. Consequently, the board’s recommendations direct dental care professionals to obtain a detailed patient history with a particular focus on the presence of risk factors, and to carefully examine the patient in order to rule out other conditions.

MANAGEMENT

After confirming the diagnosis, clinicians are encouraged to educate patients about how to deal with dentin hypersensitivity. Management begins with the removal of risk factors that can “soften” (demineralize) enamel and lead to lesions.² Acidic foods and beverages such as citrus fruits and juices, pickled foods, wine and carbonated drinks are a primary concern. *Patients should be advised to reduce the intake of dietary acids.* Intrinsic acids (stomach acids) are a less frequent irritant, but remain a significant consideration when treating patients suffering from acid reflux or frequent vomiting related to eating disorders.

Just as bruxism places excessive pressure on teeth, aggressive or overly frequent toothbrushing when the enamel is “soft” can also be an important factor leading to dentin hypersensitivity. Patients should be instructed to rinse the mouth with water immediately after eating or drinking acidic foods and beverages.² *They should brush before meals or wait at least 30 minutes after eating, to give softened enamel a chance to reharden. Teeth should be brushed gently using a soft toothbrush and toothpaste with a low abrasion level.* The importance of thorough patient instruction in the

management of dentin hypersensitivity cannot be overstated.

TREATMENT

Changing dietary habits, oral hygiene or tooth grinding behaviour is a real challenge for many patients.² When managing risk factors is unsuccessful, treating the pain may be the only recourse.

Fortunately, most cases of dentin hypersensitivity are easily treated. Practice recommendations suggest starting diagnosed patients on non-invasive therapy, with consideration for convenience and cost-effectiveness. *Desensitizing toothpaste is recommended as first-line treatment because it is efficacious, non-invasive, and inexpensive, and patients can initiate treatment at home as part of their existing oral hygiene routine.* Clinical experience demonstrates that desensitizing toothpaste provides improvement for a majority of cases. Invasive and irreversible procedures such as mucogingival surgery, pulpectomy or the use of resins, should be reserved for severe situations.

1st LINE

NON-INVASIVE

reversible
inexpensive
convenient

- Desensitizing toothpaste used correctly*
- Topical agents

2nd LINE

INVASIVE
irreversible
expensive

- Mucogingival surgery
- Resins
- Pulpectomy

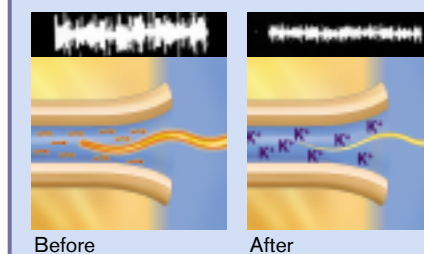
*Best results are achieved with an ongoing regimen of regular twice-daily brushing (not topical “dabbing”).

Desensitizing toothpastes are generally designed to reduce fluid flow in dentin tubules or block the nerve response in the pulp. Most *interrupt neural activation* and pain transmission with potassium nitrate or potassium chloride. Some, like strontium chloride, reduce fluid flow by *occluding the tubules*.

Active Ingredients in Desensitizing Toothpastes

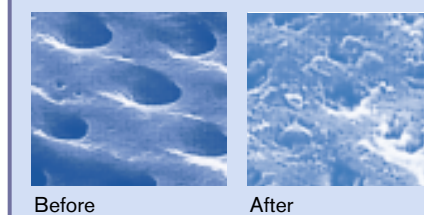
Potassium nitrate (KNO₃)

Positively charged potassium ions (K⁺) block the nerve transmissions. Protection builds over time.



Strontium chloride (SrCl₂)

Strontium chloride crystallizes at the tubule openings, blocking the holes. Protection builds over time.



The recommendations note that ongoing use of desensitizing toothpaste need not sacrifice cavity prevention, whitening, or other benefits that many patients seek in their regular toothpastes. It is emphasized, however, that for best results, desensitizing toothpaste should be used correctly. Considering the natural outward flow of fluid from the pulp toward the outer surface of dentin,⁴ regular ongoing brushing is important to build a protective barrier. Twice-daily brushing builds and maintains the barrier, and prevents pain from coming back.

For best results, dental care professionals need to inform patients that an ongoing regimen of regular twice-daily brushing is optimal, as it is the only clinically supported method of application.

FOLLOW-UP

The need to follow up with patients diagnosed with dentin hypersensitivity cannot be overstated. For many patients, the pain abates with the use of desensitizing toothpaste but recurs if patients discontinue recommended treatment and switch back to their regular non-medicated toothpaste. In such cases, patients should be instructed about the need for a long-term approach to treatment. If not, they may think that this type of treatment has been unsuccessful and mistakenly refrain from their regular regimen of twice-daily brushing with desensitizing toothpaste. Only diligent long-term management will successfully treat the ongoing discomfort and ultimately help sufferers stay pain-free.



In cases where pain persists, despite uninterrupted treatment with desensitizing toothpaste, reviewing the diagnosis is strongly recommended before applying more invasive irreversible treatments.