

# Tackling a touchy subject... do your patients suffer from tooth sensitivity?

Despite the prevalence of dentin hypersensitivity, patients may not mention it to you as their dental professional. Patients sometimes avoid the issue because they have developed coping mechanisms and adjusted their habits to avoid sensitivity triggers. This article examines the prevalence of the condition, the patient impact, and offers advice for identifying patients at risk. As dental clinicians, we have an important role to play in recognizing this condition as part of our oral hygiene education and treatment. Once identified, timely instruction may help patients avoid the pain of sensitive teeth and the negative impact on their daily life.



## Dentin hypersensitivity is more common than you may think

Globally, prevalence rates for dentin hypersensitivity range from 3-98% although it is generally reported to be approximately 25%-30% of the adult population.<sup>1</sup> A recent US study found that prevalence was higher amongst ages 18-44 than those over 65; and was also higher in women than men.<sup>2</sup> Participants with gingival recession also had a higher prevalence. The teeth most likely to be affected are molars and premolars.<sup>2</sup>

## The impacts of dentin hypersensitivity

Dentin hypersensitivity is characterized as a short, sharp, sporadic painful reaction that occurs when an area of exposed dentin is subjected to a stimulus. The pain associated with dentin hypersensitivity can vary from patient to patient. A study sought to understand more in relation to the quality of life impact of the condition, which often leaves patients avoiding cold foods, ice in drinks, and even allowing their hot coffee to go cold before drinking it.<sup>3</sup>

In the aforementioned study, 23 interviews were conducted with sufferers about their pain where terms such as “brain freeze”, “nails on a blackboard” and “needles” were used.<sup>3</sup> Triggers mentioned included foods such as ice cream, chocolate and sugar, as well as physical pressures, including brushing, scaling and polishing, and cold air.<sup>3</sup> The study highlighted the steps people often take to avoid the pain, including waiting for hot food to cool down, not eating cold desserts, or chewing on the other side of the mouth.



## Assessment of patients who may be suffering

The diagnosis of dentin hypersensitivity is differential, with a need to rule out other conditions which may cause a similar pain, including cracked tooth syndrome, fractured restorations, chipped teeth, caries, and pulpitis.<sup>4</sup>

When sensitivity is suspected there are a number of questions which can be raised as part of your history taking, including:<sup>5</sup>

- > What is the nature of the pain? (sharp, dull, throbbing)
- > How many and which teeth are affected, and do they tend to be the same teeth?
- > Which area of the tooth does the sensitivity originate from?
- > On a scale of 1-10, how intense is the pain?
- > Is there a specific trigger or stimulus which initiates the pain?
- > How often does the pain occur and how long does it last for? Does the pain linger?
- > Have you had any recent restorative, periodontal, or hygiene treatments?
- > Have you had a change in your diet or oral hygiene aids recently, or have you undertaken any at-home teeth whitening?

A clinical examination can then include:<sup>5</sup>

- > Tactile examination with a dental explorer to test whether it will elicit pain and whether this can be localized to one area or tooth
- > The use of a gentle flow of air from the air-water syringe to test for sensitivity
- > Assessing whether there is sensitivity to biting pressure or upon release
- > The use of radiographic examination to check for caries or periapical pathology
- > Assessment of whether dentin is exposed
- > Looking for evidence of cracked cusps, fractured or leaking restorations, or occlusal interference or bruxism--the other potential causes of sensitivity pain



## Patients who may be at risk of dentin hypersensitivity

Two processes are required for dentin hypersensitivity to occur; dentin must become exposed (lesion localization) through either loss of enamel or gingival recession, and the tubules must be open (lesion initiation).<sup>4</sup> Once open to the oral cavity and the pulp, stimuli such as cold food and drinks, alter the fluid flow in the tubules stimulating the nerve.<sup>4</sup> On this basis, some patient groups may be of particular risk:

### 1. Patients undergoing periodontal treatment

Gingival recession may occur as a result of periodontal disease, leaving the dentin at the cervical margin exposed. The occurrence of cervical dentin sensitivity amongst periodontal patients ranges between 72-98%.<sup>6</sup> Affected teeth include molars, followed by left canines and pre-molars.<sup>6</sup> Periodontal treatment may also expose the root surfaces, resulting in dentin exposure.

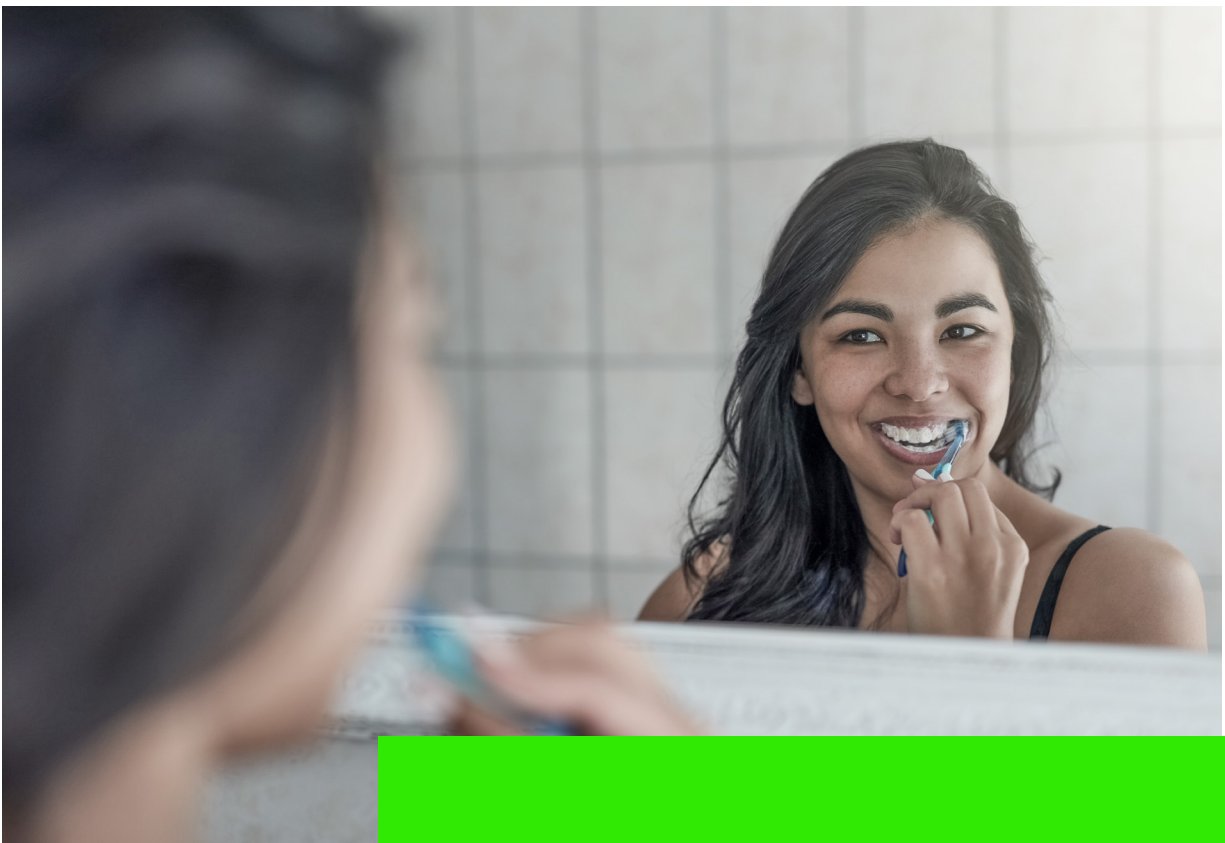


## 2. Over brushers

Patients may be applying unnecessary pressure when brushing or using a toothbrush with hard bristles that can lead to gingival recession and toothbrush abrasion. It is important to discuss and demonstrate proper brushing and interdental cleaning technique with patients, including the use of a soft toothbrush with gentle pressure. Taking the time to provide this education can help avoid gingival recession or trauma, which may lead to exposed dentin around the cervical margin.<sup>7</sup>

## 3. Patients with an acidic diet/gastric reflux

Dietary acid erosion may lead to exposed tubules as enamel is softened and worn away.<sup>8</sup> The risk of erosion increases with the number of acidic challenges throughout the day. Dental professionals play an important role in counseling patients to limit acidic exposure and to try to consume acidic food and drinks, including some fruit and juices, with meals to reduce the risk.<sup>9</sup> Gastric reflux and some eating disorders may also result in a more acidic environment in the mouth and lead to an increased risk for sensitivity due to enamel loss.<sup>8</sup> Dental professionals are key in identifying these potential conditions, discussing their impact on oral health, and providing appropriate referrals for treatment.



## Desensitizing toothpastes are a first-line treatment option for sensitivity

Although there are options for in-office therapy for sensitivity, one of the first line of treatments is to use a specialist toothpaste daily.<sup>4</sup> This approach offers an efficacious, convenient and cost-effective way to manage the condition.

There are 2 approaches to treating sensitive dentin:

- > Nerve desensitization e.g. potassium nitrate - blocking the pain transmission
- > Tubule occlusion e.g. stannous fluoride - blocking the tubules to prevent the stimulation of fluid movement

For best results, ensure your patient is brushing with desensitizing toothpaste everyday to allow optimum effect. Remind patients they can purchase desensitizing dentifrices, which also continue to offer everyday toothpaste benefits, such as cavity protection, breath freshening, or gum health enhancement.

Although patients may not mention their sensations of dentin hypersensitivity to you, as a dental professional your advice can make the difference in reducing any pain and minimizing impact on quality of life. Monitor your patients for any non-verbal cues that they may be experiencing sensitivity during the dental appointment. Follow up on any twinges that you notice when using air or water during treatment and ask relevant questions to help understand whether it is likely to be dentin hypersensitivity.

## Sensodyne toothpaste offers a choice of clinically proven ingredients to address sensitivity needs:

- > Formulations with 5% potassium nitrate - works by depolarizing the nerve, preventing a reaction to stimuli<sup>10</sup> e.g. Sensodyne Fresh Mint
- > Formulations with stannous fluoride builds a robust layer over the exposed dentin and within the tubules to provide daily sensitivity protection<sup>10,11</sup> e.g. Sensodyne Rapid Relief, Sensodyne Repair & Protect, or Sensodyne Sensitivity & Gum.

Sensodyne toothpaste variants include whitening formulations, extra fresh taste and tartar control for additional benefits. For lasting sensitivity protection, products should be used twice daily.



## References

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