

DENTINE HYPERSENSITIVITY DIAGNOSIS & MANAGEMENT CHEAT SHEET

ASSESSING THE PAIN OF DENTINE HYPERSENSITIVITY (DH)

Methods for assessing the level of pain experienced by patients include:¹

- **Air blast test:** A blast of cold air is directed at the exposed buccal surface of the hypersensitive tooth after its isolation from the adjacent teeth
- **Cold test:** Cold spray is applied to an applicator, which is held against the tooth for 5-10 seconds
- **Touch test:** This can be done with a sharp explorer, single tufted brush or calibrated probe which allows tactile pressure to varied and increased in 10g increment until patient experiences discomfort
- **Pulp test:** Stimuli including heat, cold or electrical current are applied to the tooth to stimulate nociceptors within the pulp and assess sensitivity. A dental stethoscope may also be used
- **Chemical testing:** Use of a hypertonic solution, such as sodium chloride, glucose or sucrose

Pain response is quantified using a verbal rating or validated graphic pain scale such as the **Visual Analogue Scale (VAS)**¹

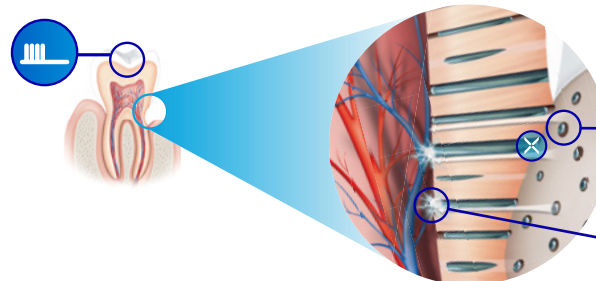
Quality of life (QoL) assessments also play a role. The dentine hypersensitivity experience questionnaire or DHEQ was developed by a team from The University of Sheffield in collaboration with Haleon and can be used to understand the impact of DH on quality of life.²

TREATMENT OPTIONS

The British Society of Periodontology S3-Level Clinical Guidelines recommends the use of 'an efficacious fluoridated desensitising dentifrice' as the first line self-care treatment in management of dentine hypersensitivity alongside preventative advice.³

Reduce risk factors

- Tooth wear e.g. frequency of dietary acid intake or intrinsic acid and dry mouth
- Gum recession e.g. oral hygiene habits, periodontitis, smoking



Mechanism of action for dentine hypersensitivity toothpastes

Layer formation and tubule occlusion

- Form smear layer, plug tubule openings
- Increase formation of intratubular dentine
- Induce formation of tertiary dentine

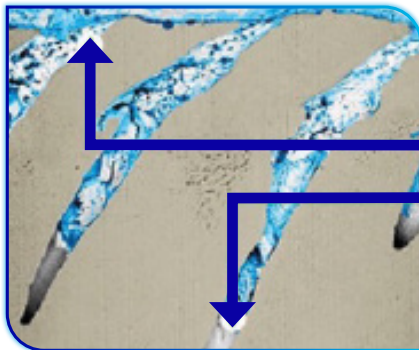
Nerve desensitisation

- Decrease intradental nerve excitability

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TUBULE OCCLUSION

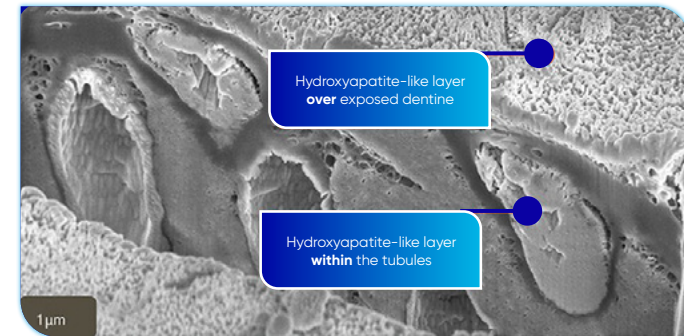
Occlusion helps prevent the nerve from being stimulated by reducing fluid movement within the dentine tubules.⁴



Insoluble stannous salts embedded into peritubular dentine on the edge of the tubule wall⁵

Insoluble stannous salts are seen to extend up to 80µm inside the tubule network⁴

Agents such as NovaMin, a form of bioglass (calcium sodium phosphosilicate) block the dentine tubules by forming a layer over the dentine surface and within dentine tubules.⁶



Hydroxyapatite-like layer over exposed dentine

Hydroxyapatite-like layer within the tubules

NERVE DEPOLARISATION

Potassium ions depolarise the pulpal nerves, preventing them from transmitting responses to the external stimuli.⁷



1. Bubteina N & Garoushi S. Dentistry 2015; 5:330.
 2. Haleon Data on File, RH02026, 2014.
 3. BSP Dentine Hypersensitivity S3-Level Clinical Practice Guideline. British Society of Periodontology. 2026.
 4. Markowitz K. J Clin Dent 2009; 20 (Spec Iss): 145-151.
 5. Haleon Data on File 161075. April 2016
 6. Earl JS. J Clin Dent 2011; 22 (Spec Iss): 62-67
 7. Peacock JM and Orchardson R. J Dent Res 1995; 74(2): 634-641.
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