

# Topically Applied Therapy for Cervical Root Sensitivity

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A 25-year-old woman presented with what she described as “intense cold sensitivity” isolated to the gingival line on teeth Nos. 27 and 28 (Figure 1). Because her sensitivity had been increasing in the past 6 months, she had switched toothpastes to a sensitivity-labeled brand, which had provided limited relief. Findings from the clinical examination revealed minor root exposure just below the free gingival margin. Cold air elicited a sensitivity response that the patient described as uncomfortable. However, the discomfort was only present under direct air application and dissipated immediately after the air steam was removed. Endo ice placed on the coronal aspect of the tooth revealed no thermal hypersensitivity and was considered a normal response.

Due to the conservative nature of the dentinal exposure, PAIN-FREE, a topically applied 4-meta oxalic acid, was chosen for its clinical performance and ease of application. The product is water-based, and the application requires no etching, curing light, or special armamentarium. Appropriate support personnel can perform the procedure.

## Preparation and Application

The manufacturer recommends the following to ensure patient comfort and maintain treatment effectiveness during the application of PAIN-FREE.

- Lay out the following materials:
  - Dappen dish with fine pumice
  - One cup of very hot tap water (no need for boiling)
  - Four Richmond cotton rolls (Richmond Dental, www.richmond-dental.net)
  - PAIN-FREE with plastic well, cotton pliers, and several small cotton pledgets
- Lightly scale the tooth only if calculus is on the buccal or interproximal (Figure 2).
- Dip a cotton roll into hot water and then into the pumice. Gently rub the buccal and interproximal with the cotton roll covered in pumice (Figure 3). This avoids heat and pain from the rotary prophylaxis.
- Dip the second cotton roll into hot water, and use it to rinse off the pumice from the tooth.
- Use the third cotton roll to dry the teeth.
- Place the fourth cotton roll into buccal vestibule to isolate lip or cheek from the teeth.
- Saturate a cotton pledget with PAIN-FREE, and gently rub it onto the sensitive tooth surfaces, according to the instructions (Figure 4).
- Wait until the product is dry, and gently test with the air syringe. Repeat if necessary until the cold sensitivity is gone. (Figure 5 and Figure 6)
- The reduction in sensitivity lasts approximately 6 months.

## Conclusion

Understanding the etiology is important for proper diagnosis and treatment of DH. With the numerous choices in materials available, the general practitioner should select the treatment that has demonstrated proven clinical effectiveness. An important consideration is the application time and simplified technique that would enable a support staff member, such as a dental

hygienist, to easily apply the treatment during the routine hygiene visit with no need for direct supervision or anesthetic injection. When choosing a dentin desensitizer, a clinician should base the selection on an agent that has clinically shown immediate reduction in perceived sensitivity.

## Disclosure

Dr. Anderson received an honorarium from AEGIS Publications, LLC.



FIG. 1



FIG. 2



FIG. 3



FIG. 4



FIG. 5



FIG. 6

(1.) Cross-sectional view of dentinal tubules. (2.) Patient with dentinal sensitivity. (3.) Cervical area is lightly pumiced to ensure access to the dentinal tubules. (4.) The desensitizer is scrubbed into the cervical dentin with a saturated cotton pellet for 30 seconds. (5.) A second light application of air is used to confirm the reduction of sensitivity. (6.) Note no residual residue visible posttreatment.

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