

Clinical Technique/Case Report

A Simple Method of Preventing Hypersensitivity in Contra-lateral Teeth During Restorative Procedures

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INTRODUCTION

Dentin hypersensitivity is a common condition, particularly in patients with gingival recession.¹ Restoring anterior teeth in these patients might involve bilateral anterior segment isolation from the premolar/canine to the contra-lateral teeth, but only with unilateral block anesthesia. Although unilateral isolation would help to reduce exposure to thermal stimuli, it also reduces the improved access bilateral isolation provides. Oftentimes, clinicians only find out that contra-lateral teeth are sensitive after rubber dam isolation and starting the restorative procedure. Air from high speed handpieces, high speed vacuum suction and/or water irrigation will illicit a painful response from the side that is not anesthetized. Such a response often makes the patient uncomfortable and delays the restorative procedure. One solution is to anesthetize both sides of the mandible or

maxilla. However, anesthesia carries additional inherent risks and time delays.

PURPOSE

This paper describes an alternative for control of contra-lateral tooth hypersensitivity after rubber dam isolation. This method involves covering the exposed teeth with finger cot or custom-made glove cutouts. This simple method has proved to be very effective in controlling contra-lateral teeth with significant hypersensitivity.

DESCRIPTION OF TECHNIQUE

After isolation with rubber dam clamps (W2 clamp, Coltene/Whaledent Inc, Mahwah, NJ, USA) and elastic cord isolation (Wedjets, Coltene/Whaledent Inc) on the contra-lateral side, the patient reported hypersensitivity to cold air and water during the restorative procedure. A general purpose finger cot (FingerCots.net, Torrance, CA, USA) was fitted over the contra-lateral teeth, then secured with a W8 rubber dam clamp (Coltene/Whaledent Inc). The restorative procedure was resumed with no further complaint from the patient (Figure 1).

This case showed two mandibular teeth that were isolated, but the same method can be applied to a group of

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three or four teeth in either the mandible or maxilla. Finger cots come in several sizes, ranging from extra large to small, and have a certain degree of elasticity with the thickened band of material at the base. One can vary the elasticity by unfolding and varying the length of the cot. The leading edge of the finger cot can be flossed through the contacts without too much trouble, even if there are adjacent teeth present. Instead of using a latex finger cot, as shown in Figure 1, one can also custom-trim part of a non-latex glove. However, the authors found that a trimmed, non-latex glove lacks the strength and integrity of the finger cot. The efficacy of preventing air, moisture and dust from contacting the isolated area is evident in Figure 2.

Finger cots are very versatile and have many adjunctive uses aside from supplemental personal barrier protection in medicine. They have been used in Switzerland and elsewhere to protect the cuff of the endotracheal tube during nasotracheal intubation.² Urologists also use finger cots as drapes.³ Other uses include controlling bleeding with finger-cot packs introduced through the anterior nares. These have been proven to be effective with significantly reduced morbidity.⁴ Relatively few reports in dentistry involved the use of finger cots. One such report involved the use of a finger cot as a barrier device in digital radiography.⁵

POTENTIAL PROBLEMS

The finger cot that was used came as 100% natural latex in a rolled style. In a latex-free clinical environment, this may present a problem to patients who are known to be sensitive to latex products. A careful review of the medical history is advised, if such a technique is to be used. The alternative technique would be to trim a non-latex glove for use in the same manner. The strength and integrity issues of custom-trimmed non-latex gloves have been addressed earlier. Non-latex, powder-free finger cots are also available on the market. Other simple techniques might involve the use of a light-reflecting resin barrier (OpalDam, Ultradent Products Inc, South Jordan, UT, USA) or therapeutic agents, such as 5% sodium fluoride varnish to cover the offending area. Both methods involve additional clean-up time.

CONCLUSIONS

The authors developed a simple method, which uses finger cots, to prevent tooth hypersensitivity after rubber dam isolation.

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Figure 1. A general purpose finger cot was fitted over the contra-lateral teeth, then secured with a W8 rubber dam clamp. The additional clamp stabilizes the rubber dam isolation.



Figure 2. The finger cot and rubber dam clamp were removed from the contra-lateral side before final rubber dam removal. The imprint of the cot is clearly visible against the background, showing the efficacy of preventing air, moisture and dust from contacting the isolated area.

References

1. Al-Wahadni A & Linden GJ (2002) Dentine hypersensitivity in Jordanian dental attenders. A case control study *Journal of Clinical Periodontology* **29**(8) 688-693.
2. Barras JP, Bigler P & Czerniak A (1993) A rare complication of the use of a finger cot to protect the cuff of a tracheal tube during nasotracheal intubation *Intensive Care Medicine* **19**(3) 174-175.
3. Herman JR (1973) Urologic drape with finger cot *Urology* **1**(5) 477.
4. Hokett SD, Honey JR, Ruiz F, Baisden MK & Hoen MM (2000) Assessing the effectiveness of direct digital radiography barrier sheaths and finger cots *Journal of the American Dental Association* **131**(4) 463-467.
5. Joseph MP, Kelly JH, Fried MP & Strome M (1981) Alternatives to anterior-posterior packs for epistaxis *Plastic & Reconstructive Surgery* **67**(4) 530-533.