Making great impressions

A fast, safe and simple retraction technique using Expasyl

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Expasyl is a paste-like material that is used for gingival retraction and haemostasis leaving the prepared field clean, retracted and dry, ready for impressions or for other restorative procedures. This product is primarily composed of kaolin (a clay substance) and aluminium chloride (an astringent that controls gingival bleeding).

It is dispensed into the sulcus with a special delivery gun. It is thick and firm allowing the material to gently displace the gingival tissue. The haemostasis is achieved with the presence of the aluminium chloride. It creates a beautifully dry and clean sulcus that is ready for an impression or restorative procedure in a much shorter time than conventional techniques and is gentler to the soft tissues.

Past techniques for retraction

There are a number of different techniques that dentists have used to obtain adequate retraction:

1. **Rotary curettage:** tissue removal with a rotary instrument, however this causes bleeding and post-operative discomfort.
2. **Electrosurgery:** tissue is removed through an electric current, but there is the potential for recession after use and cannot be used with patients with pacemakers.
3. **Laser:** Diode and Nd:YAG lasers channel laser energy through a fibre-optic light bundle which incises and cauterises tissue simultaneously creating haemostasis as well as a retracted field.
4. **Retraction cords:** by far the most widely used technique. There are different techniques including the single and double cord techniques. The disadvantages are that it can be painful for the patient without anaesthetic, can cause bleeding, is time consuming and the periodontal attachment may be damaged by packing of the cords which may cause recession.

Expasyl technique

There are many different indications for Expasyl, including for impression taking, cementation of indirect procedures, and other restorative procedures.

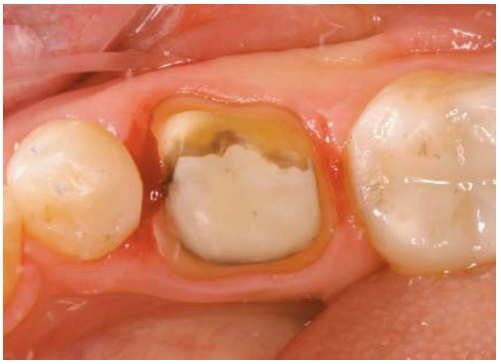

Figure 1. Bleeding interproximally and retraction is required.

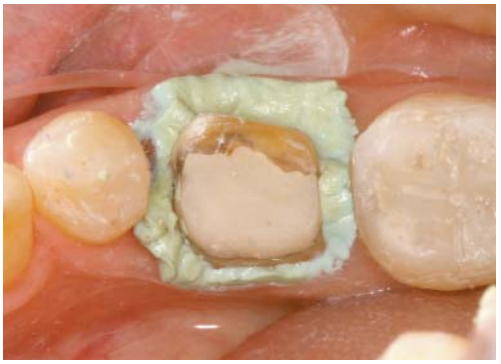

Figure 2. Expasyl placed into sulcus and tamped down.

Upon completion of tooth preparations, the area must be cleaned, rinsed and dried. The paste is carefully extruded into the sulcus by squeezing the trigger of the dispenser with even continuous pressure. This must be done slowly with the speed of placement about 2mm/second. The clinician may see blanching of the gingival tissues indicating good compression of the paste into the sulcus and therefore good retraction. There may be a need for the clinician to gently tamp down on the paste with a cotton pellet or an instrument to ensure introduction of the paste into the sulcular area.

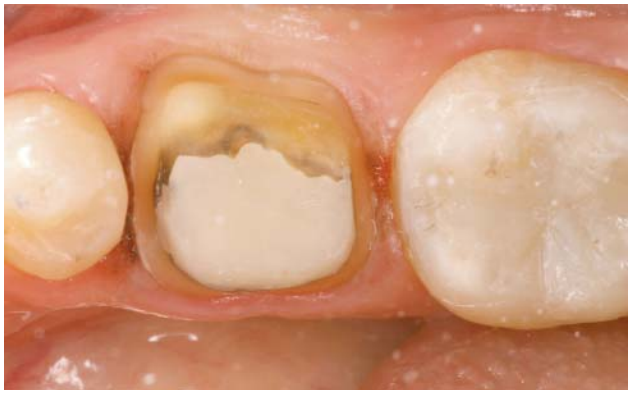

Figure 3. Expasyl removed - haemostasis achieved and gingiva retracted.

Figure 4. Clear, clean and accurate impression achieved.

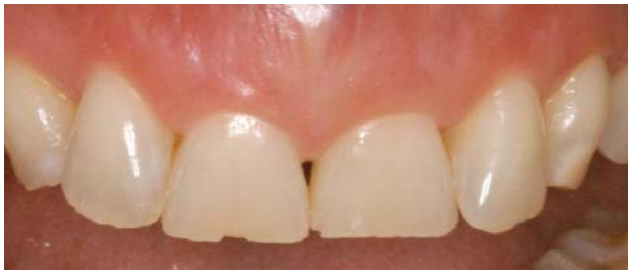

Figure 5. Pre-operative picture of patient dissatisfied with appearance of 11, 21 due to wear and poor gingival outline.

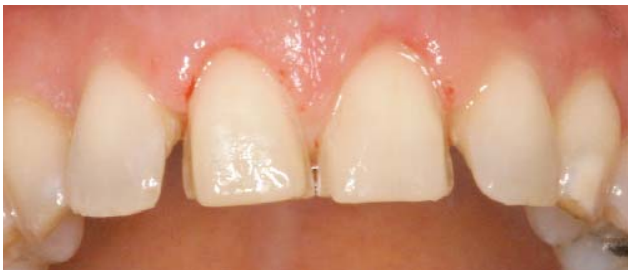

Figure 6. Provisional veneers removed and gingival inflammation and bleeding present around margins (Note: Gingival recontouring completed 3 months previously).

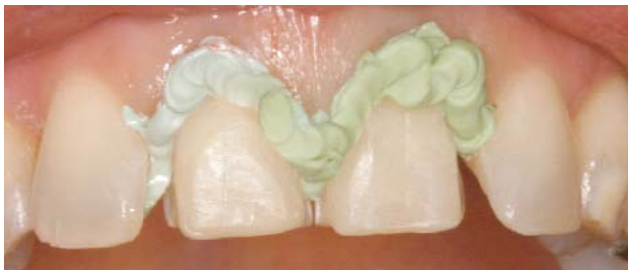

Figure 7. Expasyl paste used to provide retraction and haemostasis for insertion of porcelain veneers.

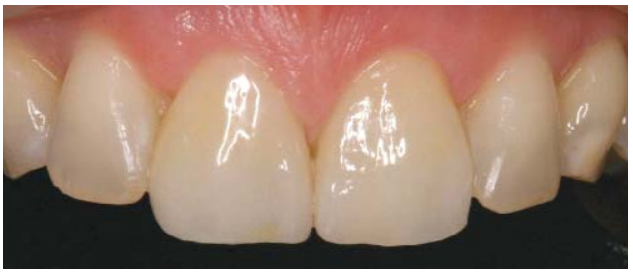

Figure 8. Empress veneers luted.

It is left in place for 1-2 minutes on average depending on the tissues; with firmer (thick and fibrous) tissue requiring longer times to achieve adequate retraction.

The aluminium chloride in Expasyl achieves comprehensive haemostasis and can handle a fair amount of blood and saliva, but for best results keep the area as dry as possible. Contact with saliva or any other moisture must be minimised as the viscosity of the paste decreases and the ability to retract is reduced. Bleeding is well tolerated by Expasyl, however if there is significant bleeding then Expasyl can be applied in 2 steps; firstly to have a haemostatic effect and then secondly to retract the marginal gingiva.

Expasyl is then removed with vigorous air and water spray leaving a dry, retracted and uncontaminated field. The placement procedure can be repeated if extra haemostasis or retraction is required. The area is now ready for your restorative procedure or for an impression.

If extra retraction is required, a single cord can be placed and Expasyl used in place of the second cord as in the two-cord technique so commonly used.

Discussion

Expasyl has been one of the most innovative products that has been introduced into the author's practice. It can be used for all indications where retraction and/or haemostasis are required.

With this technique, you achieve adequate opening of the sulcus while being kind to the soft tissues. Retraction cords can become a technique of the past. Packing of retraction cords can disrupt the epithelial attachment and may allow recession as well as bleeding. Due to Expasyl's passive action, it is also a more comfortable technique with the marginal gingiva being gently displaced and the material is easily removed. Because of these features there is a significant reduction of chair time, which is advantageous for the patient and dentist alike.

Expasyl is an essential in the armamentarium for gingival retraction and haemostasis and allows the clinician a definite advantage over previous techniques.

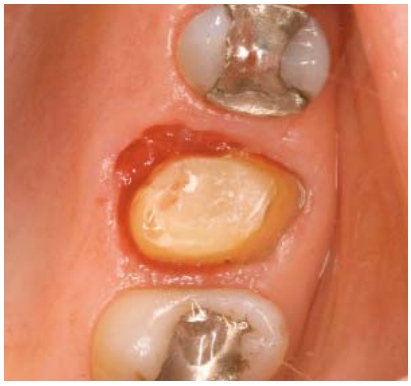

Figure 9. Bleeding present in deep margin on 16 mesial-lingual region due to previous fracture.

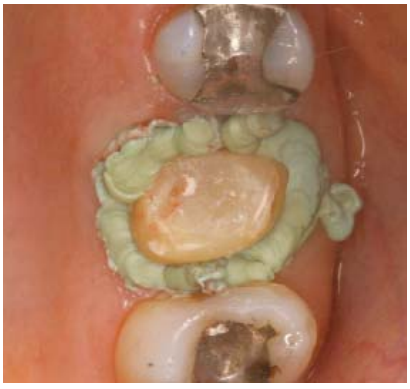

Figure 10. Expasyl paste in-situ to provide haemostasis and retraction.

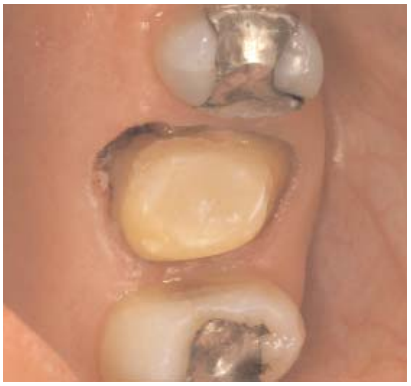

Figure 11. Expasyl removed with air/ water spray leaving dry uncontaminated field ready for cementation.

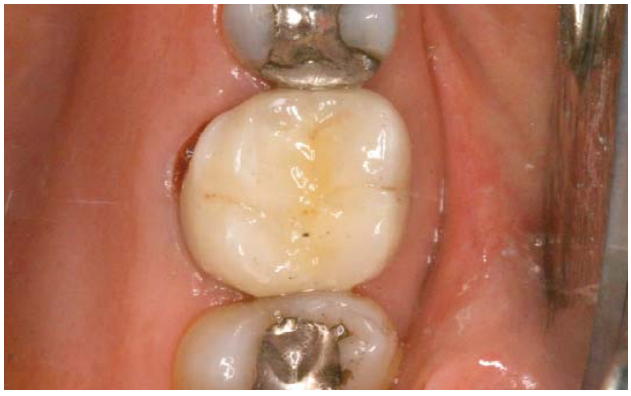

Figure 12. Procera Zirconia Crown cemented.

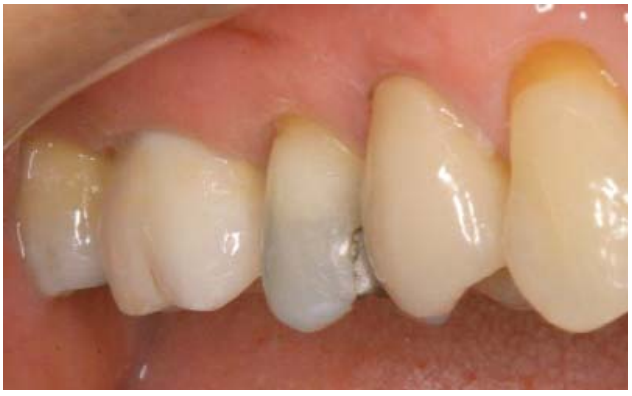

Figure 13. Crown from buccal view.

About the author

Dr Christopher Ho received his Bachelor in Dental Surgery with First Class Honours from the University of Sydney in 1994 and completed a Graduate Diploma in Clinical Dentistry in oral implants in 2001. He is a Clinical Associate with the Faculty of Dentistry at Sydney University. In addition to teaching at undergraduate level, he has lectured and given continuing education presentations in Australia and overseas on a wide range of topics related to cosmetic and implant dentistry. He maintains a successful private practice centered on comprehensive aesthetic and implant dentistry in Sydney, Australia.