

## Clinical applications of the Profin directional reciprocating handpiece

By Dr. Howard E. Strassler, DMD, FADM, University of Maryland Dental School, Baltimore, Md.  
Information provided by Dentatus USA Ltd.



**Fig. 1** Finishing a facial margin of an all-ceramic crown.



**Fig. 2** Shaping an incisal embrasure using an LTA-S15 Lamineer tip.



**Fig. 3** Finishing a gingival margin without damaging the root surface.

**F**ollowing are step-by-step procedures for 13 clinical applications of the Profin directional reciprocating handpiece.

**Finishing, shaping, and polishing.** For fine precise details for shaping, finishing and polishing, use the Profin with LTA-S75 (coarse), LTA-S50 (medium), LTA-S30 (fine), LTA-S15 (ultrafine) and LTA-S36 (wolfram). *Note:* When used instead of finishing strips, the tips provide fine control to shape curves and flat surfaces in critical esthetic areas in the gingival interproximal, facial, and incisal areas (Fig. 1).

**Shaping facial, incisal, and lingual embrasures and facial surfaces of composite resins and porcelain.** When anterior teeth and posterior teeth in the esthetic zone are restored with composite, they can be given razor-sharp delineations and embrasures for lifelike esthetics. By using Profin with the Lamineer LTA-S tips and the flat LTA-paddles, the clinician prevents rounding of the approximating line angle. Use the tips to perform precise, finely detailed esthetic forms (Fig. 2).

**Removing restoration overhangs.**

Directly placed bonded composite resins require mechanical instruments to remove overhangs. Although excess composite resin may be discovered with an explorer, many times overhanging margins are not seen until a bitewing radiograph is taken at the recall appointment. Using the Profin with a flat bladed Lamineer tip, the excess composite resin can be easily filed and shaped to the tooth margin without damaging the tooth or restoration (Fig. 3). *Note:* The Lamineer tips of choice are the LTA-100 (super coarse), LTA-75 (coarse), LTA-50 (medium), LTA-30 (fine). For narrower embrasure

areas in the anterior region LTA-S tips are preferable due to being slightly shorter and having a thinner profile. While carving amalgam is relatively easy with a variety of carver shapes and sizes designed to provide access to difficult to reach areas, Profin also can be used to remove amalgam overhangs (Figs. 4 and 5).

**Removing excess adhesive cement.** Unlike zinc phosphate cement, dual-cure and self-cure composite resin cements cannot easily be chipped away from crown, inlay, or onlay margins. Even resin-reinforced and modified glass ionomer cements adhere tenaciously to tooth structure. These newer cements are more difficult to visualize when excesses are present, especially subgingivally, because of their tooth-colored shades. Cement remaining on root surfaces

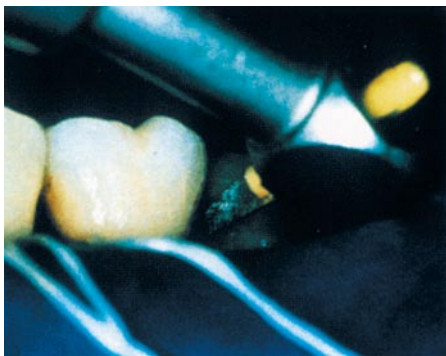


**Fig. 4** Preoperative view of amalgam overhangs.



**Fig. 5** Postoperative view of overhangs removed with a Profin Lamineer tip.





**Fig. 6** Remove excess resin cement in the gingival embrasure of a resin inlay.



**Fig. 7** Recontouring enamel in the incisal embrasure using an LTA-S tip.

can lead to future periodontal problems. The Profin with Lamineer tips LTA-75 (coarse), LTA-50 (medium); LTA-30 (fine) makes cement cleanup predictable and safe on root surfaces (Fig. 6).

**Esthetic reshaping of enamel.** For esthetic reshaping of incisal edges, incisal embrasures, and facial and lingual embrasures, use the LTA-S (shorter, slimmer) Lamineer tips. Select the abrasive grit based upon how much enamel needs to be reshaped (Fig. 7).

**Preparing teeth for resin and ceramic inlays and onlays.** The specialized requirements of facial and lingual interproximal contact areas require a path-of-draw that may be difficult to create with conventional rotary instruments. Using the Profin with a safe-sided LTA-D150, the interproximal contact area in the preparation is flattened to ensure appropriate path-of-draw (Fig. 8).

**Delicate finishing of shoulder margins for ceramic crowns.** To ensure the ceramic crown margin fits precisely to the prepared tooth, the shoulder margin must be smooth-flowing. The slightly curved LTA-C50 Lamineer tip can create access to all areas of the shoulder margin. Its shape allows precise development of the shoulder margin on the root surface (Fig. 9).

**Preparing teeth for CAD-CAM (Cerec by Sirona) restorations.** These restorations require precise tooth preparations that have a path-of-draw that can be read by the Cerec system's scanning instrument to create the digital impression. Any undercut will make the digital impression inaccurate. Using a variety of Lamineer tips — the LTA-D75, LTA-S150, LTA-S100, and LTA-S75, among others — the clinician can create preparations that meet the needs of a CEREC restoration. Seating and cementing this restoration is simplified because of Profin's preciseness during preparation.

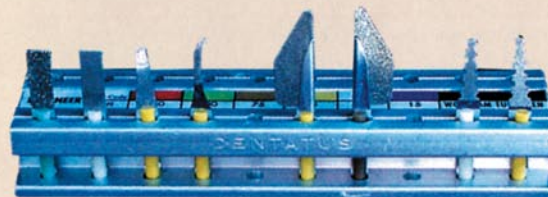
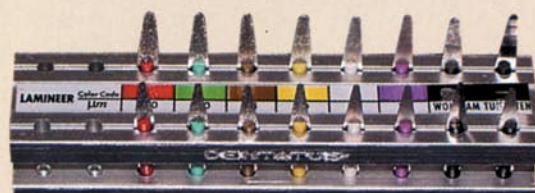
**Seating cemented restorations.** When cementing a crown, inlay, or onlay, using the PDS-MJ2 wooden tip in the Profin helps ensure complete seating by placing the right amount of force and thixotropic action; it can be oriented along the long axis of the restoration being cemented (Fig. 10). A vertical load, especially a vibratory load, is very important to ensure complete seating of a cemented laboratory-fabricated restoration. Film thickness and more complete seating occurs independent of the type of cement, resin, glass ionomer, or zinc phosphate that is used. *Note:* Before engaging the Profin tip on the restoration, com-

## ABOUT: Profin®

Directional reciprocating handpiece and assortment of Lamineer tips.

### Features

- Available in both E-type and doriot connectors to fit a slow speed handpiece
- Camber design allows internal mechanism in handpiece head to move in a precise, controlled 1.2 mm reciprocating motion when holding a Lamineer tip
- Color-coded assorted safe-sided Lamineer tips may be autoclaved
- Tips provide for long-term economical use for hundreds of applications
- Tips are plated on one side with diamond abrasive particles ranging in grit from 150 µm (red-extra coarse), 100 µm (green-super coarse), 75 µm (gold-coarse), 50 µm (yellow-medium), 30 µm (white-fine), 15 µm (violet-ultrafine) and wolfram-coated Lamineer tips for final finishing (black)



- Lamineer tips available in regular spatula tips and the LTA-S knife-edge tips, which are shorter and thinner for access to narrower embrasure spaces and interproximal contact areas
- Wolfram will not scratch or scar enamel or porcelain
- Lamineer tips also are available in specialized shapes and sizes for other applications

### Manufacturer

Dentatus USA Ltd.  
192 Lexington Ave.  
New York, NY 10016  
Telephone: 800-323-3136  
Fax: 212-532-9026  
dentatus@dentatus.com  
www.dentatus.com



pletely seat the restoration to the maximum extent possible using finger pressure.

**Reshaping occlusal contact areas during occlusal adjustment.** During occlusal adjustment, use the LTA-E50 Lamineer tip to accomplish the fine detail required to finalize the occlusion of a restoration being placed on a tooth needing reshaping on concave surfaces. The LTA-50, LTA-30, and LTA-15 can be used in flat and convex areas. Complete final polishing using rotary rubber abrasives.

**Polishing interproximal stain from enamel and composite resin.** Patients often will ask to have persistent stain removed in gingival interproximal areas after a dental prophylaxis. These are typically extrinsic stains caused by the ingestion of stain-producing foods and beverages or caused by the deposition of tar from smoking. Using the EVA-123 plastic Lamineer tips, apply a polishing paste into these areas and remove the extrinsic stain with the Profin's reciprocal action (Fig. 11). The EVA-123 has a roughened surface that holds abrasive paste against the surface to be polished while the Profin's reciprocating action scrubs the

tooth surface. The plastic tip (without abrasive pastes) is safe and does not damage tooth structure or restorative materials. *Note:* Profin's original design was intended for prophylactic procedures. The LDT plastic tip is hollow and can inject the diamond polishing paste into the tip. The tip is suitable for polishing composite resin or porcelain in hard-to-access interproximal areas. A diamond or aluminum oxide composite resin polishing paste is injected into the hollow lumen of the tip. Replace the tip plunger and while the tip reciprocates, the paste releases onto the surface being polished in a controlled manner.

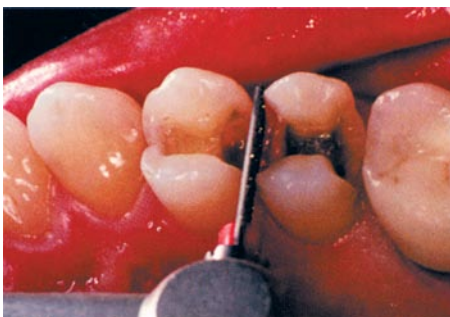
**Creating space for alignment during orthodontic treatment.** The LTA-L50 (left) and LTA-R50 (right) stripping blades and LTA-T50 saw are safe-sided, safe-edged diamonds for controlled stripping of contact areas for overlapped, rotated mandibular anteriors to create alignment space.

**Periodontal root debridement.** The Profin's Per-io-tor instrument (Fig. 12) mechanically and safely debrides the root surface, leaving the root smooth through optimal cleaning with a reciprocating action (Fig. 13). **DPR**

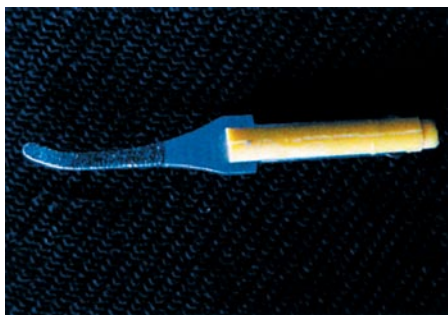
## Esthetic demands

Although it is the workhorse of any dental practice, a conventional handpiece (that rotates and accepts friction grip and latch-type burs and abrasives) does not meet all the demands of modern adhesive restorative dentistry. The Profin directional reciprocating handpiece is suitable for use on the highly demanding esthetic restorations of clinicians today. It uses a complete range of abrasives and shapes. Its companion Lamineer tips come in various shapes and sizes, consisting of diamond plated safe-sided tips, saws, and paddles in a finely controlled 1.2-mm reciprocating movement. The controlled reciprocating motion permits the practitioner to create natural approximating tooth forms and anatomical planes when shaping teeth. It also is for preparing teeth; for removing excess cement without damage to adjacent enamel, root surfaces, or soft tissue; for scaling and root planing; and for finishing restorations.

-H.E.S.



**Fig. 8** Remove the height of contour of a resin inlay preparation using an LTA-D150 tip.



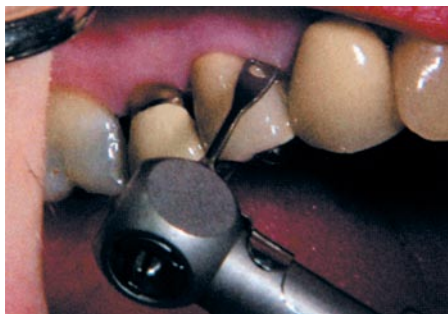
**Fig. 9** The specialized LTA-C50 curved tip is ideal for shaping shoulder margins for all-ceramic crown preparations.



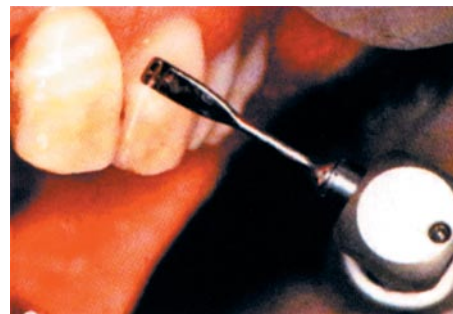
**Fig. 10** Seat a porcelain-metal crown cemented with a resin-ionomer using a Profin with a PDS-MJ2 wooden tip.



**Fig. 11** Polish gingival interproximal using diamond polishing paste and an EVA-123 tip.



**Fig. 12** Per-io-tor instrument for root planing with the Profin.



**Fig. 13** The Profin safely debrides the root surface.

**Dentatus AB**  
**Jakobsdalsvägen 14-16**  
**SE-126 53 Hägersten, Sweden**  
**Tel. +46 8 546 509 00**  
**Fax. +46 8 546 509 01**  
**info@dentatus.se**



**Dentatus USA, Ltd**  
**192 Lexington Avenue**  
**New York, NY 10016 USA**  
**Tel: 1-800-323-3136, 1-212-481-1010**  
**Fax: 1-212-532-9026**  
**dentatus@dentatus.com**

*Dentatus AB is certified to NS-EN ISO 9001 / 46001*  
**www.dentatus.com**