

Compiled by Geoffrey M Knight

## Direct laminate veneers

**It usually takes a while for dentists to realize the potential of many new restorative materials continually being introduced to the profession. One such group of materials is the micro hybrid composite resins, which enable clinicians to get comparatively high polishes, yet retain the physical properties of hybrid resins.**

The micro hybrids have a high colour intensity and ability to mask out discolorations on tooth surfaces beneath, making them particularly suitable as base layers for direct laminate veneers. The micro hybrid/micro fill sandwich laminate enables clinicians to produce direct laminates with superb aesthetics in less time than

the traditional layering technique. The following clinical case outlines the process used to produce these laminates.

The patient presented with a high lip line, her teeth were positioned irregularly in her arch and there were obvious areas of incisal wear (Fig 1, 2).

The treatment plan was to perform a gingivoplasty on the upper incisors and canines and place micro hybrid/microfill sandwich direct laminate veneers between and including her first bicuspid. Such laminates are better able to withstand the high occlusal loads she was obviously subjecting onto her upper incisors.

Gingivoplasty was achieved by first anaesthetizing the gingivae followed by blanching the attached by injecting local anaes-

thetic on both the labial and interproximal aspects. A small round diamond bur was then used to sculpt away the cervical gingival tissues to achieve the desired contour.

A small amount of trichloroacetic acid (TCA) was placed onto the exposed tissue with a perio probe to chemically cauterize the tissues and arrest bleeding (Fig 3). TCA is a potentially dangerous material and requires careful handling when used intraorally (See *News Bulletin*, 'Aesthetic Update', September 1996, or [www.dentalk.com.au/publications/](http://www.dentalk.com.au/publications/)).

Furthermore, clinicians must be careful not to encroach upon the biological width of 2 mm between the crest of the alveolar ridge and base of the gingival sulcus. If there are any doubts, the patient should be referred to a periodontist.

When the desired gingival contour was achieved, pellicle was removed from the labial and proximal surfaces with pumice and a slow speed diamond point at the cervical margins. The teeth were then etched with 37 per cent phosphoric acid for 10 seconds, washed and dried with oil free air prior to application of a dentine bonding agent (to make sure adhe-



Fig 1.

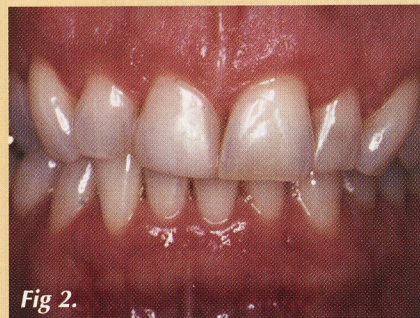


Fig 2.

Fig 1, 2. Patient presented with a high lip line, irregular arch and worn incisors.

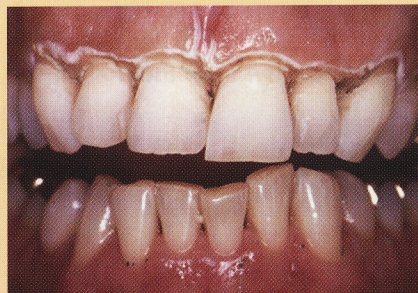


Fig 3. Gingivoplasty has been carried out prior to laminate placement.

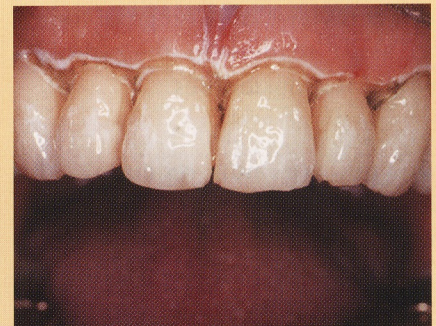


Fig 4. Micro hybrid resin placed at the cervical third of the teeth.



**Fig 5.** The body shade is scalloped to recreate mamelons and a small amount of white tint is applied into the grooves.

sion was achieved on any exposed cervical dentine).

A cervical shade of micro hybrid resin was applied to the cervical third of the teeth and spot cured for five seconds to stabilize the composite and initiate the polymerization reaction. There is evidence that slowing down the rate of polymerization reduces the internal stress caused by polymerization shrinkage (Fig 4).

A layer of resin was then applied over the surfaces of the resin and the body shade placed. The incisal third of the body shade was scalloped to reproduce the mamelons found in natural teeth. A small amount of white tint was placed into the grooves (to help break up the light transmitted from the laminate surface) prior to puddling the grooves together and light curing for a further five seconds (Fig 5).

The next step was to place a layer of incisal shade microfill resin over



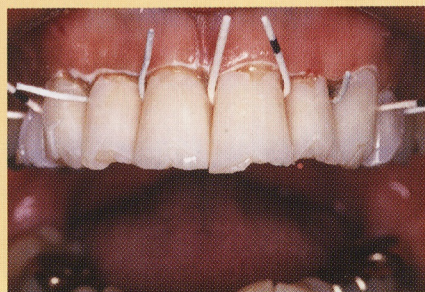
**Fig 7.** The laminates are contoured and polished using standard techniques.

the full surface of the laminate and light cure for five seconds. Microfill resins have optical properties that emulate dental enamel. Clinicians are able to achieve a high luster which, if further polished after several weeks will last indefinitely as opposed to micro hybrid resins that only retain their luster for about three months.

Finally, an incisal shade microfill resin was placed at the proximal surfaces using Mylar strips wedged with paper points. This will prevent overhangs, absorb crevicular exudates and hold the strip in place whilst inserting the resin (Fig 6).

The finishing technique for direct laminates is well established (Fig 7). For further information see *FDI Dental World*, 'Direct Veneers: The clinical technique', September 1993 or [www.dentalk.com.au/publications/](http://www.dentalk.com.au/publications/)

About two hours after treatment the white eschar formed by the TCA will disappear and the open



**Fig 6.** The proximal surfaces are placed using Mylar strips wedged with paper points.



**Fig 8.** One month after placement the tissues have healed, apart from a small amount of gingival re-contouring that will occur over the next couple of months.



**Fig 9.** 'Micro fill resins produce the finest aesthetics available in dentistry.'  
*John Mclean.*

lesion will be relatively painless due to the fact the nerve endings have been cauterized as well.

One month after placement the tissues will have healed. A small amount of gingival re-contouring to full anatomical form will slowly occur over the next couple of months (Fig 8).

Direct laminates constructed using this technique provides patients with cost efficient, minimally invasive alternatives to indirect techniques. The results are long lasting and to quote John McLean 'Micro fill composite resin produces the finest aesthetics available in dentistry' (Fig 9).