The treatment of hypo-plastic or discolored, rotated or tilted teeth had until, recently been limited to destructive crown preparation or the more conservative composite acrylic labial veneers, retained by the acid etch technique. However, the use of porcelain laminate veneers and gingival colored removable prostheses made of soft silicone materials offer an uncomplicated solution for correcting these defects and successfully restore the esthetics and phonetics. This clinical report describes the management of two patients with fabrication of a “gingival cascade”, by using a simple two-stage impression technique that fulfills the aforementioned requirements.

Key Words: Veneers; Hypo-plastic teeth; Rotated Teeth; Alveolar ridge defects; Gingival colored prosthesis
which resulted in the loss of papilla between the maxillary anterior teeth (Figure 3). The patient was not interested in an additional surgical procedure to reconstruct the papilla. Previous bonding procedures had been performed by other dental practitioners in attempt to reduce the interproximal space and thus to improve aesthetics and phonetics, but the results had been less than ideal.

There is currently no predictable surgical method for correcting the aesthetic deformities which result from periodontal attachment loss. Attempts have been made to hide such gingival deformities with acrylic veneers. They have the drawback of being hard and rigid, and difficulties in fitting acrylic accurately around six, eight or ten teeth leads to small gaps which collect food debris; this may result in caries or social embarrassment. The flexible gingival mask is a significant improvement on previous techniques because it provides aesthetic solution which is both comfortable and accurately fitting (Figure 4). The masks are very stable during eating and speaking and virtually no problems have been encountered. Hence, in accordance with the patient’s wishes, a removable silicone gingival prosthesis was planned.

Construction

Special Tray: A labial acrylic custom tray is made on a model cast from a preliminary alginate impression. The tray is located on the buccal cusp tips and incisal edges only, extended distally as far as the mask is to extend, usually to the distal embrasures of the second premolars. The tray is extended into the labial sulcus, without overextension, to create a good peripheral seal in the final mask.

Palatal Barrier: The objective of the impression is to capture the interdental spaces so that the silicone mask will fill the embrasures, excluding air to prevent lisping and aiding retention. To prevent the impression material from flowing out of palatal aspects of the embrasures, silicone putty is mixed and moulded on the palatal or lingual aspects of the teeth to be treated to form a wall or barrier for each embrasure. After setting, this barrier is trimmed so that the putty only forms a barrier at the lingual or palatal aspect of each embrasure, but does not encroach into the interdental space itself. This will prevent the rubber impression material from escaping palatally; if it does so, it may tear as it is removed from the mouth and this may necessitate a repeat impression.

Impression: The custom tray is tried in the mouth and adjusted if necessary. It is advisable to practise insertion several times so that the tray can be fully seated on its location points on the incisal edges and buccal cusp tips. This is obviously more difficult once the tray is loaded with impression material. The impression is taken using a rubber impression material with high resistance to tearing, such as Impregum. The material is introduced into each interdental space using a syringe and the tray loaded in the usual way. The tray is carefully fitted into place and the material allowed to set. After setting the tray is carefully removed from the mouth taking great care not to tear the interdental tags which represent the embrasure spaces.

Processing: The working model is made up in the hard stone and mask waxed-up exactly as it is to appear. The surface of the mask is given the final appearance and characterisation at this stage because, once the material has been processed, contouring and polishing is no longer possible (Figure 5). After waxing the model is trimmed, using a model trimmer and plaster knife, to remove the teeth down to the wax margins, to eliminate undercuts (Figure 6). The model is then embedded in the shallow half of the flask using white plaster and sitting almost upright, again to avoid undercuts. The reverse is formed in yellow stone to allow for high pressure (50 bar/70psi) on closure (Figure 7). The wax is then be boiled out and, while still hot, a separating medium applied in two coats, applied three minutes apart. At least four hours is allowed for cooling and hardening before the silicone material is packed in stages. The material flows under pressure but not as quickly as acrylic dough, so patience and care is needed in the laboratory at this stage. When the flask is finally closed it is heated to a temperature of 150 degree centigrade for two hours and maintained for 30 minutes.

This requires a dry heat oven with accurate temperature control. Two transparent base colours and an opaque are available as well as two colours for characterization and a protective lacquer. The mask is colour shaded to match the patients gingival shade using the pigments provided with kit after which a protective lacquer is applied, and dried in an oven for 10 minutes at 115 degree centigrade (Figure 8). On completion of curing the mask is gently removed from the flask and the mask trimmed using a sharp new scalpel blade and sharp scissors. Care is needed at this stage to avoid tearing the material. Finally a layer of protective lacquer applied over the mask before it is delivered to the patient. The mask is not returned to the model as this may damage the undercut interdentally.

Insertion: The mask is tried in the mouth and, if necessary, trimmed slightly to remove excess material which may have resulted from an over-accurate impression. Usually two masks are made from the same impression and both are checked to ensure an accurate fit. The patient is shown how to insert and given printed instructions on the use and maintenance of the masks.

Maintenance: The patient is instructed to use the two masks on alternate days so that the gradual changes that inevitably occur.

Figure 3. Pre op, Figure 4. Wax pattern, Figure 5. Flasking, Figure 6. Flasking, Figure 7. Colour matching, Figure 8. Final
take place in such a restoration occur equally in both masks.

**Discussion**

It is possible to create aesthetically pleasing and anatomically correct tissue contours when small volumes of tissue are being reconstructed, but this method is unpredictable when a large volume of tissue is missing.\(^5\)\(^6\) The surgical costs, healing time, discomfort and unpredictability make this choice unpopular. Prosthetic replacement, with acrylics, composite resins, porcelains and silicones, is a more predictable approach to replacing lost tissue architecture.\(^7\) It is especially useful when large amounts of tissue needs replacement. Ideal tissue contours can be waxed, processed and then coloured to match the surrounding tissue. The patient need not undergo any additional surgical procedure and receives an aesthetically pleasing, functional restoration.\(^2\) Dental aesthetics is based not only on the “white component” of the restoration but also on the “pink component”. A clear understanding of the colour and form requirements is essential to fabrication of the prosthesis and its acceptance by the patient. Understanding the methods used to incorporate gingival prostheses into prosthodontic treatment is vital to ensuring that patients are offered all possible options at the outset of treatment planning.\(^2\)\(^3\)

**Conclusion**

In conclusion the use of porcelain laminate veneers and a removable gingival prosthesis is a viable alternative prosthetic procedure in advanced tissue loss management to achieve aesthetic results and patient satisfaction.

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