

Interim partial dentures

By Peter Herring, Adv Dip Dent Tech, ACCDP



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Trauma, failed restorations and implant procedures are but a few of the circumstances that can leave patients with missing teeth in the short-term. The technique we will describe in this article allows very rapid thermoformed production of simple interim partial dentures to maintain the dental arch and restore aesthetics during these compromised periods.

This type of partial denture is quickly manufactured, eliminating the need to wax and flask and process the denture base and is easily modified as the treatment plan proceeds. However, it must be noted that these appliances are not intended for long-term use - simply as an economical and fast interim solution. This technique is also only suitable for pressure-type thermoforming.

Step 1. Prepare the model and design the partial. It's good practice to have produced a duplicate working model for this process. Bend any clasps that are required, leaving a space of 0.5mm under the clasp tags and adjust and set the artificial acrylic tooth. It is very important to create a dovetail arrangement in the lingual of the tooth for mechanical retention. Position all the adjusted elements with small amounts of high temperature wax.

Step 2. Now cover clasp tips and the labial face and incisal edge of the tooth with rapid set plaster to secure the elements.

Step 3. Apply the separating solution (i.e. Isolac) to the model. Ensure that the separating solution does not pool under the tooth or clasps. Remove excess with low pressure compressed air if necessary. Allow to dry off for five minutes.

Step 4. Position the model in the thermoforming

flask using stainless steel granules to the level of the incisal and occlusal edges. Cover the exposed granules with a silicon foil. Using a 2.5mm thickness polymethyl methacrylate (PMMA) thermoforming foil (i.e. Erkocryl), begin the heating cycle of the pressure thermoforming unit. At approximately 2 minutes before the end of the heating cycle, mix a small quantity of compatible clear cold cure resin (i.e. Resilit-S). 30 seconds before the end of the heating cycle, apply the resin (which should be in a slightly sticky state) to the lingual of the tooth, overfilling the prepared retention, and flow under the clasp tags. At the end of the heating cycle, introduce the flask and thermoform.

Step 5. Leave the appliance in the thermoforming unit under full pressure for 15 minutes. By this time, the cold cured resin will have hardened and bonded with the PMMA foil. All that remains now is to remove the appliance from the model and finish using the standard finishing techniques. (See article *Systematic Finishing of Thermoformed Appliances*, eLABORATE September/October 2006.

Step 6. A finished interim partial denture. Fast and economical to make, the clear base makes it easy to assess the underlying tissue and the PMMA base can be modified with common cold cure acrylics.

About the author

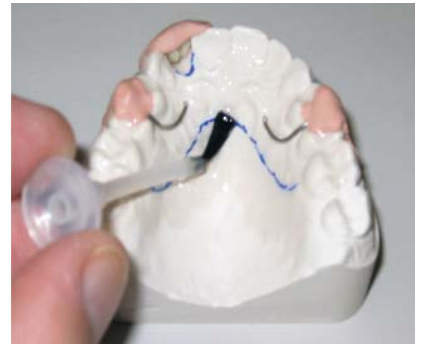
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Step 1.



Step 2.



Step 3.



Step 4.



Step 5.



Step 6.