

In-Office Fabrication of Invisible Multi-Pontic Retainer

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Abstract

The present paper describes a technique for semi-permanent replacement of missing anterior edentulous span with an Essix retainer-supported pontics. The objective was to incorporate an esthetic alternative for the maxillary anterior edentulous span, which would be the least invasive and comfortable for the patient.

Keywords: Essix Retainer, Missing Teeth, Pontic, Semi-Permanent Replacement.

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INTRODUCTION

It has always been a challenge to preserve and later replace the edentulous spaces during and after orthodontic treatment respectively. Previously, the Orthodontist used riding pontic during treatment or Hawley's retainer with pontic after the treatment is over, but that approach has limitations [1] For example, riding pontics need to be removed on the day of debonding while Hawley's retainer has an unsightly appearance of a metal bow and often breaks off the retainer.

In a previous article, we presented a chairside method for the replacement of central incisors with an in-office stainless steel framework and mini-screws [2].

This Clinical Pearl describes a similar technique for making a highly esthetic retainer that will be non-invasive and adequately preserve the central incisor space.

TECHNIQUE

The procedure is demonstrated in an adolescent male patient on the day of his debonding (**Fig. 1**). After confirming adequate space for the central incisors and proper root angulation of the adjacent lateral incisor and canine, the patient was debonded. An impression was made and a study model was poured in Type III dental stone.

Legends for Illustrations



Fig. 1: Pre-treatment Intra-oral Photograph

Acrylic teeth of desired shade were selected. Some adjustments were done to adjust the size (height

and width) of the pontics (**Fig. 2**). Teeth positions to arch form and opposing model was evaluated.

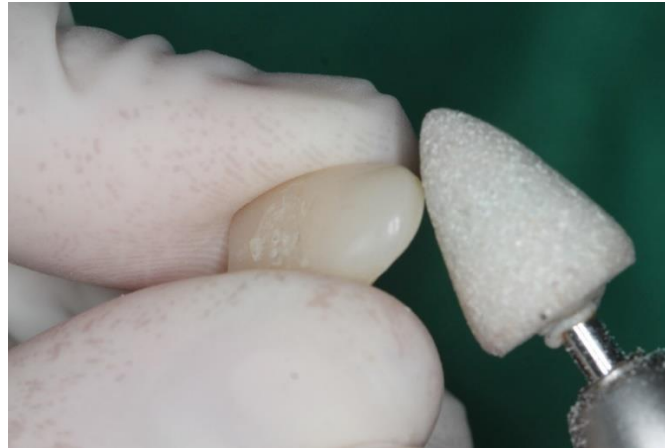


Fig. 2: Trimming of the acrylic tooth for desired dimensions (height & width)

Separator material was applied to the edentulous area of the model followed by the stabilization of acrylic teeth with wax. Cold-cure acrylic

material was used to prepare a palatal flange over the palatal part of the arch to stabilize the alignment of the pontic (**Fig. 3**).



Fig. 3: Preparation of palatal flange with cold-cure acrylic material

Resin should only be within the pontic area and extend slightly onto the palatal-lingual tissue. The pontic assembly was carefully removed from the model. The acrylic flange of the pontic was trimmed so that it extends to 2-3 mm onto the palatal tissue.

Pontic assembly was placed on the model to check trim accuracy followed by preparation of retention grooves on the palatal flange (**Fig. 4**). Pontic assembly was stabilized on the model with a few drops of super-glue applied on the tissue contact side (**Fig. 5**). It was left to dry for 1 minute and model was ready for fabrication of retainer.



Fig. 4: Preparation of retention grooves



Fig. 5: Stabilization of assembly on model with super-glue

Separator material was applied to model surfaces that will come in contact with the retainer except for pontic assembly. With about 20 seconds

remaining in the heating cycle, the acrylic resin was applied to the lingual retention grooves (**Fig. 6**).



Fig. 6: Filling of holes with cold-cure acrylic material



Fig. 7: Model with assembly placed on vacuum former



Fig. 8: Post-treatment Intra-oral Photograph

The retainer was cut out and trimmed with a disc and lab handpiece. Retainer borders were trimmed to the gingival margins; also ends of the last tooth were trimmed to distal marginal ridges on either side of the arch [3]. Residual adhesive under the pontic was removed with a bur. The entire procedure took about 25 minutes.

CONCLUSION

This in-office multi-pontic retainer is highly esthetic and less time-consuming; a definite advantage being it can aid in replacing the edentulous span on the day of debonding. It can be expected to last nine to twelve months.

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