

## ESSIX<sup>®</sup>\* Appliances

### The Fabrication of a Temporary Bridge to Replace Missing Anterior Teeth

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#### Editor Note:

Dr. J. Jack Sheridan has a financial interest in the ESSIX Raintree company. All profits from the ESSIX technology are donated to the Department of Orthodontics at Louisiana State University School of Dentistry , New Orleans, USA for an endowed chair.

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Figure 1.  
Frontal portrait with missing  
maxillary lateral incisors

The advantages of utilizing ESSIX<sup>®</sup>\* thermoformed appliances as retention devices and minor tooth movement appliances in clinical practice have been described. <sup>(1)(2)(3)(4)(5)</sup>

A very useful application of the ESSIX<sup>®</sup>\* thermoformed appliances is the fabrication of temporary bridges to replace missing anterior teeth. Orthodontists, pedodontists, and general dentists/implantologists are frequently challenged with providing an esthetic and functional provisional prosthesis for patients who will later receive a single tooth implant supported restoration or other type of replacement for missing anterior teeth. The purpose of

this article is to describe the fabrication of an esthetic and functional provisional

prosthesis using ESSIX<sup>®</sup> thermoforming technology.

The patient, C.R., has congenitally missing maxillary left and right lateral incisors (*Figures 1 and 2*) and has just completed orthodontic treatment.



Figure 2.  
Frontal Intraoral with missing maxillary lateral incisors

A conventional Hawley type of retainer (*Figure 3*) was placed to maintain the space for implant supported restorations to replace the maxillary lateral incisors. Some of the potential problems with such "conventional" retainers include occlusal interferences from clasps, esthetic limitations, due to the blatantly obvious labial bow, speech problems, resulting from the bulkiness of the appliance, and palatal soft tissue irritations as a result of "settling" of the acrylic framework (*Figures 4 and 5*).

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Figure 3. Frontal view of Hawley



Figure 4. Palatal view of Hawley



Figure 5  
Palatal view of initial inflammatory response

Clearly, an alternative appliance would serve the patient better while she is waiting for the ultimate prosthesis (crowns on implants).

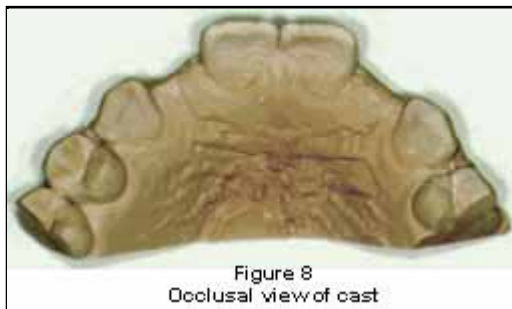
## The Technique

The fabrication technique for an Essix appliance is presented below.

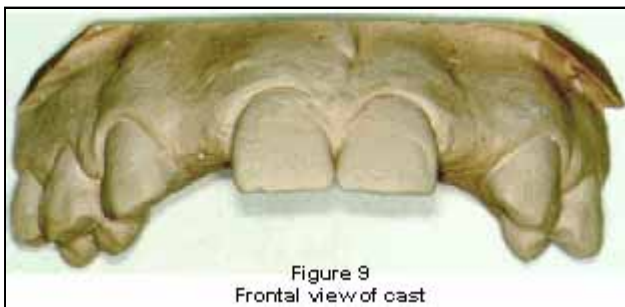
1. Employing a universal, anterior-perforated plastic tray, obtain an impression using a combination of heavy and light vinyl polysiloxane impression material.



Trim away the impression material distal to the canine--since only the canine-to-canine teeth will be included in the appliance--and box with baseplate wax (*Figures 6 and 7*).



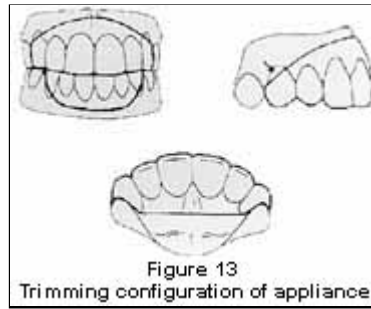
2. Pour the impression with a high quality die stone.



Minimal trimming on the base of the cast is required if the previous instructions have been followed (*Figures 8 and 9*).



3. After placing a separating medium in the edentulous areas, fit an appropriate pontic to the edentulous alveolar ridge. Cut a mesiodistal trench about 4mm wide and 3mm deep into the lingual surface of the pontic (*Figure 10*). This will create a mechanical lock for the pontic during the thermoform process.



4. After checking the incisal efficiency of the pontic (*Figure 11*), secure it in place with a quick-cure or light-cured acrylic. Don't use wax. It will melt during the thermoforming process.

5. With the pontic secured on the cast, thermoform the Essix plastic sheet (.030") over the cast (*Figure 12*). This can be done on vacuum or pressure thermoforming machines.



6. Trim the appliance with curved Mayo scissors to the configuration shown in *Figure 13*. Cutting the appliance in the manner shown will allow the patient to easily remove it with a fingernail purchase along the distolingual edge of the appliance.



The completed Essix constructed temporary bridge is shown (*Figures 14 and 15*). Patient acceptance of this extremely esthetic and durable temporary bridge has always been enthusiastic. They have proven to be reliable, esthetic, and functional temporary appliances to replace missing anterior teeth. Additionally, Essix appliances have been used extensively in private practices and tested by orthodontic and oral implantology departments of major universities.

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