

# A Novel Technique to Retain Exfoliated Natural Tooth

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## ABSTRACT

Missing or lost anterior teeth presents psychological and social trauma to the patients. Using natural tooth as pontic along with fibre splint is a simple and economic treatment for periodontally compromised tooth. It can be considered as healthy, hygienic, minimally invasive and long-term provisional treatment option which provides better aesthetics and function, along with this, technique is chair side without any time consuming for laboratory procedures.

**KEYWORDS:** Fibre splinting, Natural pontic, Oral hygiene, Aesthetics

## INTRODUCTION

The rehabilitation of aesthetics in patients with reduced periodontal tissue support is a challenge in dentistry.<sup>1</sup> There are many reasons for loosing of anterior teeth. Namely, because of trauma, advanced periodontal disease, root resorption or failed endodontic therapy. To come out of poor esthetics, immediate replacement of missing tooth is must from patient point of view. It is important for patient to overcome speech and masticatory difficulties as well as maintain the edentulous space. So, in this scenario, if dentist uses natural tooth as pontic then definitely it provides being the exact shape, size and colour. This will enhance the patient's psychological value.<sup>2</sup>

Along with acid etch bridge technique, using fiber splint and flowable composite, it is easy to use natural tooth as pontic where crown part of tooth is in good condition.<sup>3</sup> The development of bondable polyethylene fibre, it is possible to create a conservative, highly aesthetic prosthesis that is bonded directly to the teeth on either side of missing tooth.<sup>4</sup>

## CASE REPORT

A male patient aged 69 years reported to Department of Conservative Dentistry and Endodontics with avulsed tooth 41 [Figure 1]. History revealed that tooth was exfoliated around 20 minutes back. The patient was interested in replacing back the same tooth in its position. Clinical examination revealed that there is periodontally compromised condition in the lower anterior region. So, natural tooth pontic treatment was planned. Calculus deposits from tooth were cleaned with an ultrasonic scaler. Then root was resected at gingival tissue height using an airtor [Figure 2]. Pulp chamber was opened, pulp tissue was removed and sealed with composite resin (Filtek Z350XT, 3M ESPE, USA). Thread was taken and

placed on abutment teeth from distal of 33 to distal of 43 to determine the length of Ribbond (Ribbond, Seattle, WA, USA) material needed for a splint. Then measured length of Ribbond was cut and kept ready for use on a clean paper pad.

Following satisfactory occlusal as well as gingival adjustments and try-in, the abutment teeth and pontic were cleaned with pumice and dried [Figure 3]. All teeth were then etched with 35% phosphoric acid for 30 seconds, washed and dried [Figure 4]. Unfilled bonding agent (Adper Single Bond 2, 3M ESPE, USA) was applied and cured. Then pre cut Ribbond was carefully wetted on both surfaces using unfilled bonding resin, and it was placed on the teeth along with flowable composite (Tetric N-Flow Ivoclar Vivadent) and cured in place. A layer of composite resin was placed over Ribbond, confirming that all over of it was covered by composite and was light cured [Figure 5]. Occlusal interferences were checked, followed by finishing and polishing of composite with discs and stones [Figure 6]. Patient was asked to follow oral hygiene instructions.



Fig 1: Avulsed Tooth

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Fig 2: Root resected to use as pontic



Fig 6: Natural Pontic in space



Fig 3: Abutment teeth cleaned and dried



Fig 4: Abutment teeth were etched



Fig 5: Fiber Splint seen on lingual side

## DISCUSSION

Immediate replacement of missing or lost anterior teeth prevents psychological and social trauma to the patient. There are different methods available for replacing a single missing tooth. Removable appliances compromise aesthetics because of canine clasps that are commonly used for providing stability and retention.<sup>2</sup> Fixed partial denture and implants are the other options for missing anterior teeth. But in this case, there was grade-II mobility in lower anteriors along with gingival recession and bone loss was present. So, these treatment options were also ruled out.

In the present case, we have used Ribbond fibre splint and composite material to stabilize natural tooth pontic with abutment teeth, since this method of using natural tooth as pontic with fibre splint shown better results by various clinicians.<sup>2,5</sup> Ribbond is made from an ultra high modulus, ultra high molecular weight polyethylene fibre that is woven into a porous ribbon. It is biocompatible, inert, colorless and translucent. The combination of the fibre material and the bi-directional weave makes the ribbon exceptionally pliable and compliant.<sup>4</sup> The advantage of fibre splint comes from adding of thin filaments of different material into resin base. So, because of this fibre splint prevents propagation of cracks through the structure and also increases strength.

Out of many methods for immobilization, splinting is considered as better option. Fibre splint material is aesthetically pleasing and comfortable to the patient. It has highly favorable mechanical properties, when compared to metals they may offer many advantages including non corrosiveness, translucency and good bonding properties.<sup>6</sup> It should be mentioned that the patient strictly observed the oral hygiene instructions and polishing of the restored surfaces was performed the procedure could be completed chair side, thereby avoiding laboratory costs. However, efforts in preserving the gingival papilla by immediately placing an ovate pontic in the extraction area was not achieved probably due to preexisting periodontitis.<sup>1</sup>

## CONCLUSION

Using natural tooth as pontic is a better alternative for immediate replacing of missing/exfoliated/lost anterior teeth. As this technique is simple and easy, less time consuming and it provides best aesthetics and function. However, this procedure is technique sensitive, operator's skills and demands proper case selection and precise technique.

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