Short Communication

Complementary use of Essix retainer

ABSTRACT

Trauma leading to fracture of maxillary anteriors is a common finding in orthodontic patients with proclined upper anteriors. Retention is an integral part of orthodontic treatment. We hereby intend to provide a small modification in fabrication of the clear retainer which facilitates in the restoration of the fractured anterior tooth. Working models are made for maxillary and mandibular arches. Fracture tooth is buildup on the working model using acrylic to replicate the anatomy of the tooth. Thermoformed retainer is fabricated on these working models with built-up fractured. These can be used as a retainer followed by restoration. The thermoplastic retainer can be used as template for restoration of the fractured anterior tooth saving clinical time for buildup of teeth and reduces an appointment of the patient.

Keywords: Clear retainer, retention, thermoformed retainer, essix retainer, trauma

INTRODUCTION

Trauma leading to fracture of maxillary anteriors is a common finding in orthodontic patients with proclined upper anteriors.[1] A restorative procedure for such fractured anteriors can be time consuming and requires clinical skill to restore the anatomy of the tooth with direct technique.

This communication intends to provide a clinical tip for restoring the natural anatomy of the tooth in simple and fast indirect technique. Retention is an integral part of orthodontic treatment. Depending on the type of malocclusion, various periods for retention are included in the orthodontic treatment. With various modalities for retention appliance, orthodontist selects the most appropriate retention appliance for the case based on the clinical situation and case demands. Pressure-/vacuum-molded thermoplastic clear retainers is one among the various methods of retention.[2]

We hereby intend to provide a small modification in fabrication of the clear retainer which facilitates in the restoration of the fractured anterior tooth.

FABRICATION

Working models are made for maxillary and mandibular arches. Fracture tooth is build up on the working model using acrylic to replicate the anatomy of the tooth. Thermoformed retainer is fabricated on these working models with built-up fractured. These retainers can serve as template for restoration the fractured tooth in the patient as well as same can be used as a retainer followed by restoration. The procedure is explained in Figure 1a-s.

Advantages of system

1. Better appreciation of treatment results by the patients and in the posttreatment records of the orthodontist
2. This system avoids repeat impression and fabrication of retainers as well as saves clinical time for buildup of teeth
3. Reduced appointments of the patient.

CONCLUSION

Restored tooth anatomy by this procedure may not be

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Figure 1: (a and b) Fractured maxillary incisor. (c) Buildup done on working model using cold cure acrylic resin. (d) Fabrication of thermoformed clear aligner on the build-up working model. (e) Etching on the margins of fracture margins (preparation of the margins may be required). (f) Application of primer followed by curing. (g) The retainer/template is seated to check for fit and to evaluate the approximate amount of composite that will be required. (h) Composite material (Tetric EvoCeram by ivoclar vivadent) of corresponding shade is filled in the tray with condensing instrument in the area to be restored; slightly excess material is advisable to create pressure compaction of the material. Excess material may flow on unwanted areas vaseline separation media should be applied on such areas. (i and j) Retainer is placed in position with mild pressure to be applied on the area to be restored to fit properly and compact the material. (k) Curing of the material is done from both labial as well as lingual aspect. Clear retainer facilitates easy curing. (l and m) Retainer is separated and removed from the arch carefully, the retainer sheets are lined with thin separating films; it avoids bonding of the composite with retainer. (n) Excaess material can be trimmed off using composite polishing kit. (o) If any voids observed in the margins of restoration it can be filled with flowable composite of same shade. (p-s) Final restoration after finishing and polishing and the retainer in place

comparable to the art of direct techniques. However, it servers the purpose of better appreciation of treatment results by the patients and in the posttreatment records of the orthodontist. This procedure avoids repeat impression and fabrication of retainers as well as saves clinical time for buildup of teeth and reduces an appointment of the patient. Refinement in the techniques may be required for the prevention of composite bonding to adjacent teeth.

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Conflicts of interest

There are no conflicts of interest.

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