Simplified Method of Bonding the Fixed Retainer

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ABSTRACT

One of the means of maintaining stability has been the use of fixed retainers. Stainless steel multistranded wire is one of the most commonly used fixed retainer. The most critical or difficult step in using multistranded wire as a fixed retainer has been stabilizing the wire in its adapted position during bonding. This article will describe a very simple and effective method of stabilizing the multistranded wire retainer during bonding using Modeling Wax.

Clinical relevance: The method of stabilizing the fixed retainer described in this article during bonding using modeling wax, is the most simplest, economical, least time consuming and also very effective method.

Objective: To describe a very simple and effective method of stabilizing the fixed retainer using modeling wax during bonding.

Keywords: Retention, Coaxial wire, Modeling wax.


INTRODUCTION

Retaining the orthodontic corrections has been an enigma for orthodontists since a long-time.

Angle stated that 'the problem involved in retention is so great as to test the utmost skill of the most competent orthodontist, often being greater than the difficulties being encountered in the treatment of the case up to this point.'

One of the means of maintaining the stability has been to use the fixed retainers. The most commonly used fixed retainers is multistranded stainless steel wire. The advantages of 0.0175" multistranded stainless steel wire are as follows:

• It is quite effective in maintaining the stability
• Facilitates maintenance of proper oral hygiene

The most critical or difficult step in using multistranded wire as a fixed retainer has been stabilizing the wire in its adapted position during bonding. Various methods have been suggested to stabilize the wire to the lingual or palatal surface of teeth during bonding viz orthodontic elastics, ligature wire, silicon-based impression trays, vacuum formed thermoplastic trays, self-curing acrylic transfer trays, wire-resin trays and Memosil trays.

This article describes a simplified method of stabilizing the 0.0175" multistranded wire retainer during bonding using simple modeling wax. The steps are as follows:

1. Make the impression of lower/upper arch, on which the retainer is to be bonded.
2. Pour the impression in dental stone.
3. Adapt the 0.0175" multistranded stainless steel wire to the lingual/palatal surface of the teeth from canine to canine or premolar to premolar, on the working model (Fig. 1).
4. Take a small strip of modeling wax. Roll it into thickness of two layers; soften it in hot water or with gas torch. Cut the wax in the dimension of approximately 1.5 × 1 cm.
5. Prepare the patient for bonding by pumicing the lingual/palatal surface of anterior teeth. Now, transfer the retainer to patient’s mouth, stabilize the wire in its position with the index finger and thumb of one hand. Place the softened modeling wax on the lingual surface of canines over the retainer wire and on to incisal one-third of labial surface. Press the wax gently, so that ends of the retainer gets embedded within the wax (Fig. 2).

Fig. 1: Multistranded retainer wire adapted on the model
6. Isolate the teeth to be bonded, to ensure optimal moisture control.

7. Etch the lingual/palatal surface of all the teeth to be bonded with 37% phosphoric acid for 30 seconds, except the distalmost teeth covered by wax. Rinse the teeth and carefully dry it.

8. Bond the retainer to all the four incisors, one by one. Apply a thin layer of Transbond XT primer*** (3M Unitek) on and around the retainer wire on lingual surface, then apply Transbond XT*** (3M Unitek) light-cure composite adhesive on and around the wire and cure it.

9. After the wire is bonded to all the incisors, except the distalmost teeth, remove the stabilizing wax**. It can be easily removed with a probe without leaving any residue either on the tooth surface or the wire (Figs 3 and 4).

10. Etch the lingual surface of the canines and occlusal surface of premolars (if the retainer is extending till premolars) on the right and left side. Rinse the etchant, then apply primer and light-cure composite on and around the retainer and cure it (Fig. 5).

Advantages of this method include:
- Simple, easy and effective.
- Less time consuming (both the chairside time and laboratory time).
- Economical.

REFERENCES


*0.0175" Multistranded stainless steel wire (made in USA), Libral traders.
**Modelling Wax, Dental Products of India, The Bombay Burmah Trading Corporation Limited, Mumbai.
***Transbond XT, 3M Unitek, 2724 S, Peck Road, Monrovia, CA, 91016.