

Recent Advances in Retainers- A Review

S. ELAKIYA¹ and E.THULASIRAM²

Department of Orthodontics, Tagore Dental College and Hospital, Chennai-48, India.

Department of Orthodontics, Sree Balaji Dental College and Hospital,
Bharath University, Pallikaranai, Chennai - 600100, India.

DOI: <http://dx.doi.org/10.13005/bpj/749>

(Received: July 25, 2015; accepted: September 10, 2015)

ABSTRACT

Orthodontic retainers are specially made devices, usually made of wires that hold teeth in newly moved position, long enough to aid in stabilizing their correction.

Key words: Removable retainers, Fixed retainers.

Orthodontic retainers are specially made devices, usually made of wires or clear acrylic, that hold tooth in position after orthodontics, orthognathic surgery or any method of realigning teeth. Moyer's defined retention as 'maintaining newly moved teeth in position, long enough to aid in stabilizing their correction. Teeth that have been moved in or through bone by mechanical appliances have a tendency to return to their former position and the purpose of retention is to counteract this tendency. There are two types of retainers: fixed and removable retainers.

Removable Retainers

They are devices that can be inserted into and removed from the oral cavity by the patient at will. The removable retainers serve as retention for intra-arch stability and are useful as retainers in patients with growth problems².

Begg wrap around retainer

The wrap around or clip-on retainer consists of a plastic bar along the labial and lingual surfaces of teeth. A full arch wraparound retainer should allow each tooth to move individually, stimulating reorganization of the periodontal ligament. In addition, a wraparound retainer is quite esthetics³.

Thermoplastic retainers

Essix thermoplastic co polyester retainers are a thinner, but stronger. Essix retainers can be placed on the same day the fixed appliances are removed. Their flexibility and positioner effects help in correcting minor tooth movements. They can serve as a temporary bridge for a missing anterior tooth. They can also act as night guard for bruxism⁴.

Invisible retainers

They are very popular type of post orthodontic treatment. The pressure formed custom made retainer is designed to hold the teeth in their final position.

Fixed Retainers

The appliances that are fixed or fitted onto the teeth by the operator and cannot be removed by the patient at will.

Types of fixed retainers

- ˆ Banded Canine to Canine Retainer
- ˆ Bonded Lingual Retainers
- ˆ Band and Spur Retainer.

Banded canine to canine retainer and band spur retainer has been no longer used now a days. Bonded lingual retainer has been used as a

fixed retainer most commonly.

Resin fiberglass bonded retainer⁵

It solves the major problem with cuspid to cuspid retainer and takes very little time for preparation.

Advantages

- ' Rigid and impervious.
- ' Comfortable

In cases of severe incisor rotations, however, this technique is flexible enough to allow the incisors to be bonded as well⁵. It is recommended for patients who need only the canines to be retained.

Bonded lingual retainer

They are normally used in situations where intra-arch stability is questionable and prolonged retention is planned, especially the mandibular incisor region²

Indications⁶

- ' midline diastema cases
- ' Spaced anterior teeth
- ' Adult cases with potential post orthodontic tooth migration
- ' Accelerated loss of maxillary incisors, requiring the closure and retention of large anterior space.
- ' Severely rotated tooth.
- ' Flexible Spiral Wire Retainers

Advantages⁷

- ' Invisible.
- ' Neat and clean.
- ' Can be used along with removable retainers.
- ' Increase retention

Disadvantages

- ' Poor oral hygiene maintainence
- ' Not indicated in deep bite

Indications

- ' Closed midline diastema.
- ' Anterior teeth spacing.
- ' Palatally impacted canines.

Comparison between fixed and removable retainers

Advantages for removable retainers:

- ' Ease of use
- ' Patient can easily be neglect to wear at time
- ' Patient can remove easily
- ' Brushing and flossing is easy

Disadvantages

- ' It may lost or forgotten to wear
- ' Can't be repaired

Advantages for fixed retainers

- ' It gives long- term results for retaining teeth than removable one.

Disadvantages

- ' Flossing is difficult

CONCLUSION

From the available data removable retainer have showed equal significance compared to fixed retainer. Further, most studies in fixed retainer have focused on mandibular anterior alignment, while the maxillary anterior alignment has been studied to a much lesser degree.

In retention of the orthodontically treated teeth, Flexible spiral wire retainers does not requires patient's compliance, they are invisible, aids in long term retention. Retainers should be checked at least once a year.

REFERENCES

1. Zachrisson .Excellence in finishing. *Journal of Clinic Orthodontics* **20**: 460-82 and 536-56 (1986)
2. Rami Reddy.M.S, Suma.S, Chandrasekhar. B.R, Ankur Chaukse. Retention Appliances –A Review. *International journal of dental clinics* **2**(3): 31-36 (2010).
3. Proffit W, Fields H, Sarver D. Contemporary orthodontics: Mosby Inc (2007).
4. Sheridan J, LeDoux W, McMinn R. Essix

- retainers: fabrication and supervision for permanent retention. *Journal of clinical orthodontics*: JCO **27**(1):37-45 (1993).
5. Linden F. The Van der Linden Retainer. *Journal of Clinical Orthodontics* 2003; **37**(5): 260-7.
 6. Christie TE. Molar-to-molar mandibular retainer. *J Clin Orthod* **19**(7):500-4 (1985).
 7. Artun.J .Caries and periodontal relation associated long term use of different types of bonded lingual retainers. *American Journal of Orthodontics* **86**: 112-8 (1984).
 8. NikhilanandHegde, GiridharReddy.Y, Vinay.P, Ashish Handa *International journal of dental clinics* **3**(3): 53-54 (2011).
 9. Mohamed ParshanIOSR *Journal of Dental and Medical Sciences* (IOSR-JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861. **13**(1): 24-26 (2014).
 10. P.K.VigneshIOSR *Journal of Dental and Medical Sciences* (IOSR-JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861. **14**(2) 56-59 (2015).
 11. Zachrisson B. The bonded lingual retainer and multiple spacing of anterior teeth. *Swed Dent J Suppl.* **15**: 247-55 (1982).