

**Bonded Retainers: Art and Science**  
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### **Introduction**

- Relapse is the most common risk in orthodontics and bonded retainers are often used to help reduce unwanted changes after orthodontic treatment.
- The use of bonded retainers differs significantly in different parts of the world.
- It is unclear whether bonded retainers are better or worse than removable retainers and there is a general lack of scientific evidence in this area.<sup>1</sup>
- This lecture will discuss the results of a UK multi-centre randomised controlled trial comparing bonded retainers to vacuum-formed retainers.

### **When are bonded retainers used?**

- Bonded retainer usage differs markedly between countries around the world.<sup>2-7</sup>
- Bonded retainer usage even differs within countries. For example 42% of orthodontists in the West of USA use mandibular bonded retainers compared to 26% in the North-East USA.<sup>4</sup>
- Bonded retainers are more commonly used in the mandibular arch than the maxillary arch.<sup>2-7</sup>
- Bonded retainers are used more frequently in patients treated privately rather than in state-delivered healthcare system.<sup>2,5</sup>

### **Are there situations when bonded retainers are essential?**

- It has been suggested that bonded retainers (ie full-time retention) should be considered in the following situations: in patients with compromised periodontal support, after treatment of spaced dentitions, after treatment of cleft lip and palate patients, after treatment of severe rotations, in cases where the teeth have knowingly been moved into an unstable position (for example proclining a lower labial segment to “protect” the patient’s profile).<sup>8,9</sup>

### **Art of bonded retainers: technique**

- Bonded retainers are technique demanding. The bonded retainers must be placed in a passive position<sup>10</sup> with excellent moisture control. There is evidence to suggest that success rates for bonded retainers increase with the experience of the clinician.<sup>11</sup>
- Use of a jig and appropriate materials will be discussed in the lecture.

### **Science of bonded retainers: randomised controlled trial comparing bonded retainers and vacuum-formed retainers**

- The results of a 3-centre RCT from the UK will be discussed. A previous study had only looked at lower retainers<sup>12</sup> – this new study looked at upper and lower retainers.
- Sixty patients were randomly allocated to either upper and lower vacuum-formed retainers, or upper and lower bonded retainers
- The patients were followed up for 1 year after debond.

The following outcomes will be reported, comparing the 2 types of retainers:

- Effect of retainers on oral health
- Patient satisfaction
- Stability
- Survival of retainers
- Cost-effectiveness

### **Summary**

- Bonded retainers are one of the most controversial topics in orthodontics. Although they are used widely across the world, the scientific evidence to support their usage is limited.
- This lecture will report the findings of an important multi-centre randomised controlled trial that compares bonded retainers with vacuum-formed retainers. The study will compare the retainers’ effect on oral health, patient satisfaction, ability to reduce relapse, survival rates and cost-effectiveness.

**Simon J Littlewood, May 2015**



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