

The Hybrid Core System for Indirect Bonding

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No matter which indirect bonding method one chooses, the precise transfer of the bracket from the plaster cast to the patient's tooth is the critical factor.^{1,2} We have long used silicone to make individual indirect transfer trays, since its elasticity makes it easy to manipulate and allows it to be used repeatedly.³ Distortion of the silicone can cause some problems, however; in some cases, the silicone does not fit snugly on irregularly shaped incisal edges. Composite resin has also been proposed as a suitable material for an indirect bonding tray, but resin trays must be broken apart to be removed after bonding.^{4,5} This article introduces a new type of lingual indirect tray that combines the favorable properties of both resin and silicone.

Hybrid Core

We named this new tray the "hybrid core" because it consists of two different materials: an inner silicone part (green) covering the bracket, and an outer resin part (red) covering the inner silicone to the tip of the labial incisal edge (Fig. 1). We use a light-cured adhesive resin for bonding because of its consistency and tackiness (Fig. 2).

This composition not only provides precise bracket transfers, but also allows repeated rebonding. To rebond a bracket, one simply inserts the new one into the original hybrid core (Fig. 3).

Discussion

This hybrid core has been more successful in our practice than silicone trays have been. Although lingual bonding is more sensitive than labial bonding because of occlusal interference, the most critical factor is the elimination of moisture. The hybrid core system greatly reduces the time wasted in frequent rebondings, which has been a significant reason for orthodontists to avoid lingual therapy.

At present, the hybrid core method has been applied only to anterior brackets, but we are adapting it for bicuspids and molars. It should also be possible to use the system for labial indirect bonding.

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FIGURES





Fig. 1 Hybrid core consists of resin part (red) and silicone part (green).

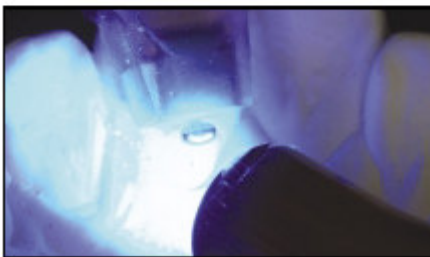


Fig. 2 Hybrid core bonding procedure.





Fig. 3 For rebonding, new bracket fits securely into original hybrid core.

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