

New Indirect Bonding Method for Lingual Orthodontics

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The most significant challenges involved in indirect bonding for lingual orthodontics have been:

- Keeping the brackets stable enough for precise positioning.
- Making it easy to remove the indirect transfer tray.
- Bonding in areas with difficult access.
- Using the same materials for accurate rebonding when necessary.

This article introduces a new indirect bonding method—the Convertible Resin Core System (CRCS)—that solves these problems without the need for special equipment. It is simple, accurate, and expedient.

Laboratory Procedure

1. Place the brackets on the setup model using the Custom Lingual Arch Setup System (CLASS), TARG, or other suitable system.
2. Block out each bracket slot and part of the tooth surface with an elastomeric ligature (Fig. 1A) and baseplate wax. Extend the wax over the bracket/tooth interface to create a gap between the bracket base and the resin core (Fig. 1B). This will prevent excess bonding material from flowing into the resin core.
3. After applying a separating medium to the setup model, build up each resin core using pattern resin (DuraLay) with a brush-on layering technique. For optimal stability, extend the pattern resin to cover the upper surface of the elastomeric ligature laterally and the bracket ball hook posteriorly (Fig. 1C).
4. After the resin has set, separate each resin core-bracket assembly from the setup model. Once the elastomeric ligature and baseplate wax are removed, the bracket is easily separated from the resin core.
5. Make a notch for an elastomeric ligature in the upper surface of each resin core (Fig. 1D). The ligature is used to rejoin the bracket and resin core prior to bonding (Fig. 1E).

Clinical Procedure

1. Check the fit of the resin cores on the tooth surfaces. Prepare the lingual tooth surfaces for bonding as usual. If desired for additional bond strength, the bracket bases can be sandblasted with a Microetcher.
2. After applying the adhesive to each bracket base, place the resin core-bracket assembly on the tooth (Fig. 2A), applying finger pressure to ensure precise adaptation.
3. Remove excess bonding material before the adhesive sets.

4. After the adhesive has set, remove the elastomeric ligatures and resin cores (Fig. 2B). Store the removed resin cores in case they are needed for rebonding (Fig. 3).

□

FIGURES

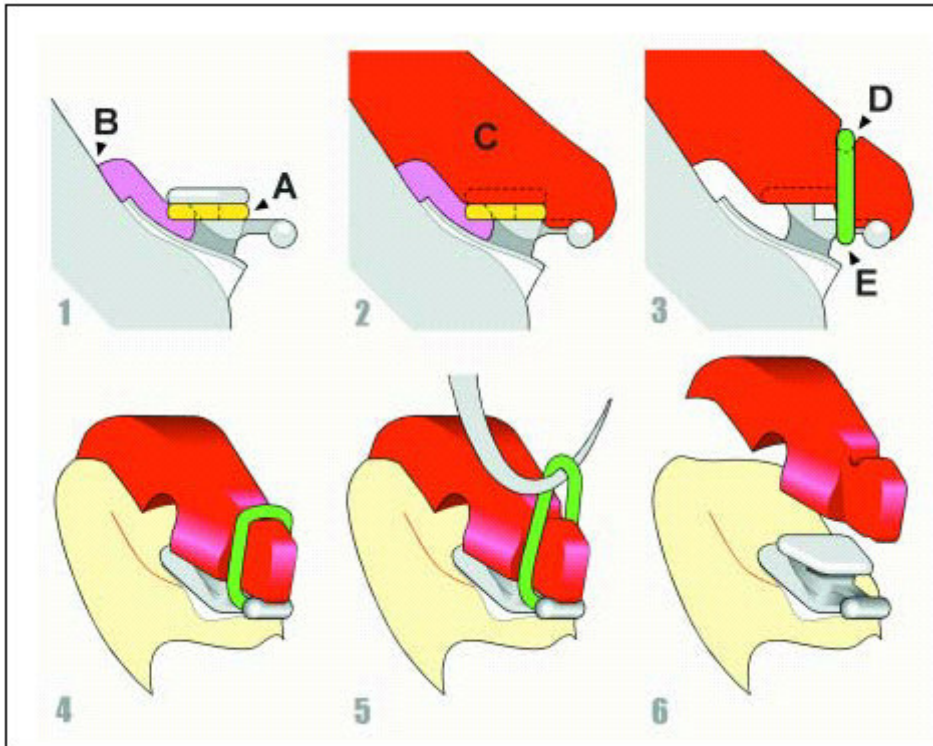


Fig. 1 Laboratory fabrication of Convertible Resin Core.

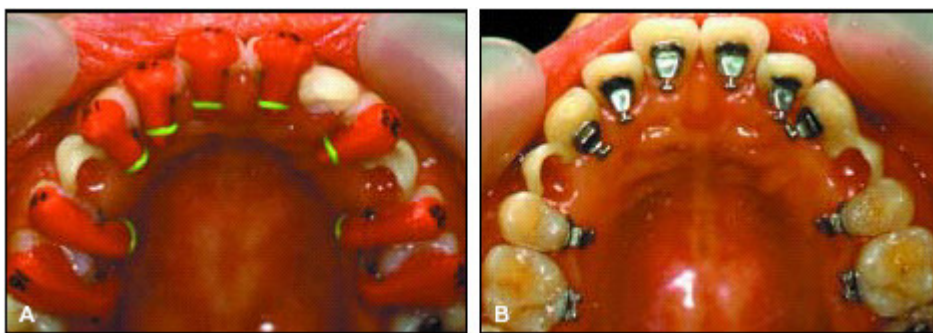


Fig. 2 A. Resin core-bracket assemblies in place. B. After removal of resin cores.

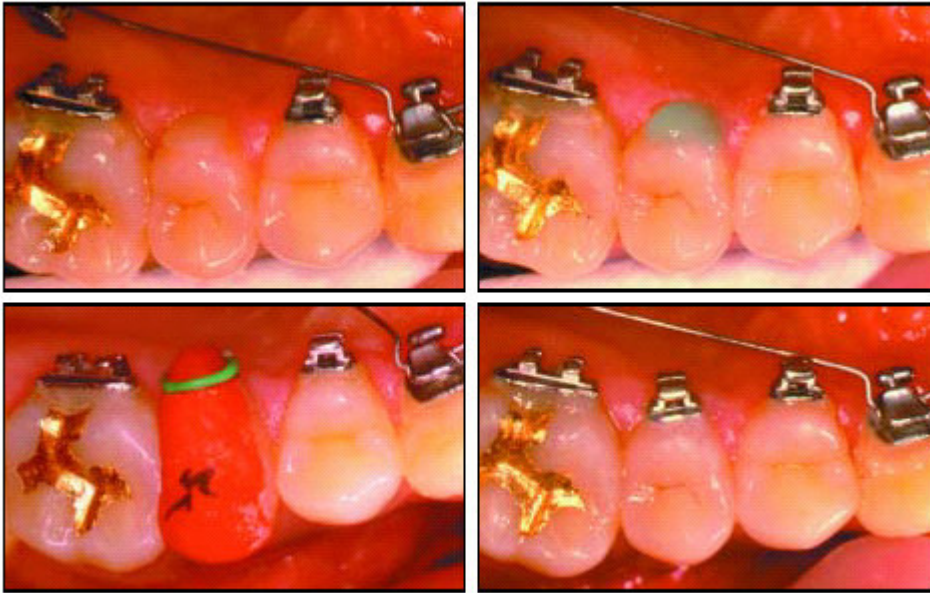


Fig. 3 CRCS rebonding procedure.

FOOTNOTES

1 CLASS, Specialty Appliances, Inc., 1670 Oakbrook Dr. #390, Norcross, GA 30093.

2 TARG,Ormco/"A" Company, 1717 W. Collins, Orange, CA 92867.

3 DuraLay, Reliance Dental Manufacturing Co., 5805 W. 117th Place, Worth, IL 60482.

4 Microetcher, Danville Engineering, 1901 San Ramon Valley Blvd., San Ramon, CA 94583.