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TIPS FROM OUR READERS

A chair side cast with removable die for the fabrication of indirect composite resin restorations

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The fabrication of indirect composite resin restorations (ICRRs) presents multiple advantages over direct techniques. While sharing the advantage of direct repair in the event of a fracture, when compared with direct composite resin restorations, ICRRs require less intraoral time and increase patient comfort. Facilitated manipulation and control of restorative materials improving marginal adaptation and control over polymerization shrinkage are also advantages of ICRRs.[1] However, a disadvantage of ICRRs is the need to obtain a definitive cast with a removable die, typically preventing single-appointment procedures.[1]

Different techniques have been described to simplify the fabrication of casts with removable dies. However, producing a cast capable of being readily used to fabricate a chair side ICRR is still difficult.[2-6]

The present article describes a straightforward, inexpensive, and time-efficient technique to produce a chair side cast with removable dies, allowing the fabrication of ICRRs in a single appointment.

TECHNIQUE

1. After tooth preparation, make a definitive impression with a polyether material (Impregum Penta; 3M ESPE).
2. Carefully inspect the impression and confirm its adequacy. Use a polyvinyl siloxane developed for cast pouring (Mach-2; Parkell) to obtain a semirigid definitive cast.

Figure 1. Adaptation of Lego block onto definitive cast.

Figure 2. Sectioning removable die.

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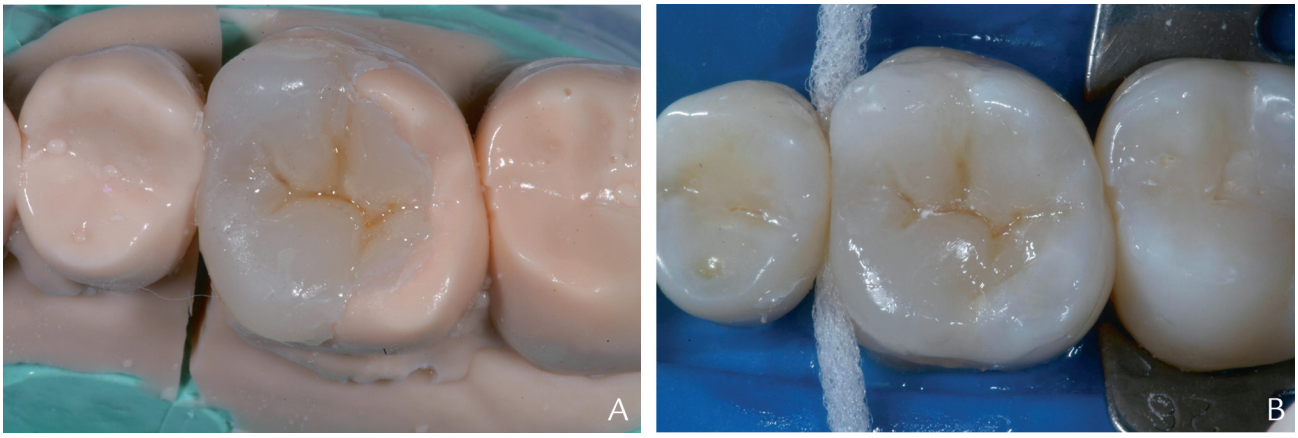

Figure 3. Definitive composite resin restoration. A, On cast for evaluation of interproximal contact. B, Cementation.

3. After complete polymerization of the pouring silicone, separate the cast and inspect it for any inaccuracies or defects.
4. Use a Lego block (Lego; The Lego Group) as a repositioning base and interpose a layer of heavy-body polyvinyl siloxane (Blu-Mousse; Parkell) between the definitive cast and the Lego block (Fig. 1). Care should be taken to ensure that the preparation margins are aligned with the fixation elements of the Lego block. The size of the block should be at least equivalent to the extension of the definitive cast.
5. Use a razor blade (or a thin saw blade) to section the prepared tooth by following its distal and/or mesial margins until the Lego block is reached, obtaining a removable die (Fig. 2).
6. Fabricate the definitive ICRR (Spectra; Dentsply Sirona), characterize as required, finish, polish, and cement (Fig. 3).

The present article describes a technique to produce a chair side cast with removable dies, allowing for the fabrication of an ICRR in a single appointment while decreasing intraoral time. The materials used do not require an equipped dental laboratory, which should facilitate and increase the applicability of this technique.

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