

# “Reverse” Indirect Bonding: A Protocol for Temporary Debonding

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**W**hen a patient requests that orthodontic brackets be removed for an important event such as a wedding or prom before the completion of treatment, the practitioner must weigh the alternatives of debonding early and dealing with a compromised finish or rebonding after the event, which requires time to relevel the dentition before treatment can be continued with stiffer archwires.

We have developed a protocol for temporary upper-arch debonding and rebonding that maintains tooth positions and minimizes the amount of treatment time lost for realignment. The procedure is shown here in a female patient age 15 years, 10 months, who requested removal of her braces for her “sweet 16”. She was about six months away from completion of her orthodontic treatment (Fig. 1). We agreed to remove the upper 4-4 brackets temporarily.

## Procedure

1. Remove all wires in the upper arch and ask the patient to brush meticulously. After checking that no calculus or other accumulations are present around the brackets, take a polyvinyl siloxane (PVS) impression. Seat the tray firmly, ensuring that the PVS material entirely covers the gingival aspects of the brackets by pressing it around the rims of the tray. The brackets will rip through the impression as it is removed from the mouth. This will not distort the impression, and the gaps will provide exit paths for the rebonded brackets. Check the impression carefully for accuracy; as with Invisalign\* cases, no defects or air bubbles should be present.

\*Registered trademark of Align Technology, Inc., San Jose, CA; www.aligntech.com.



**Fig. 1** 15-year-old female patient about six months from anticipated completion of orthodontic treatment. (Maxillary archwire was changed to .018" x .025" stainless steel with no step-up prior to debonding procedure.)

2. Debond the upper 3-3, 4-4, or 5-5 brackets, depending on the patient's smile and preferences. Take an alginate impression of the upper arch, then place .018" x .025" stainless steel segmental wires in the remaining upper posterior brackets, tying them with metal ligatures (Fig. 2).
3. Vacuum-form a retainer for the entire upper arch using the alginate impression, with the posterior brackets and wires blocked out (Fig. 3).

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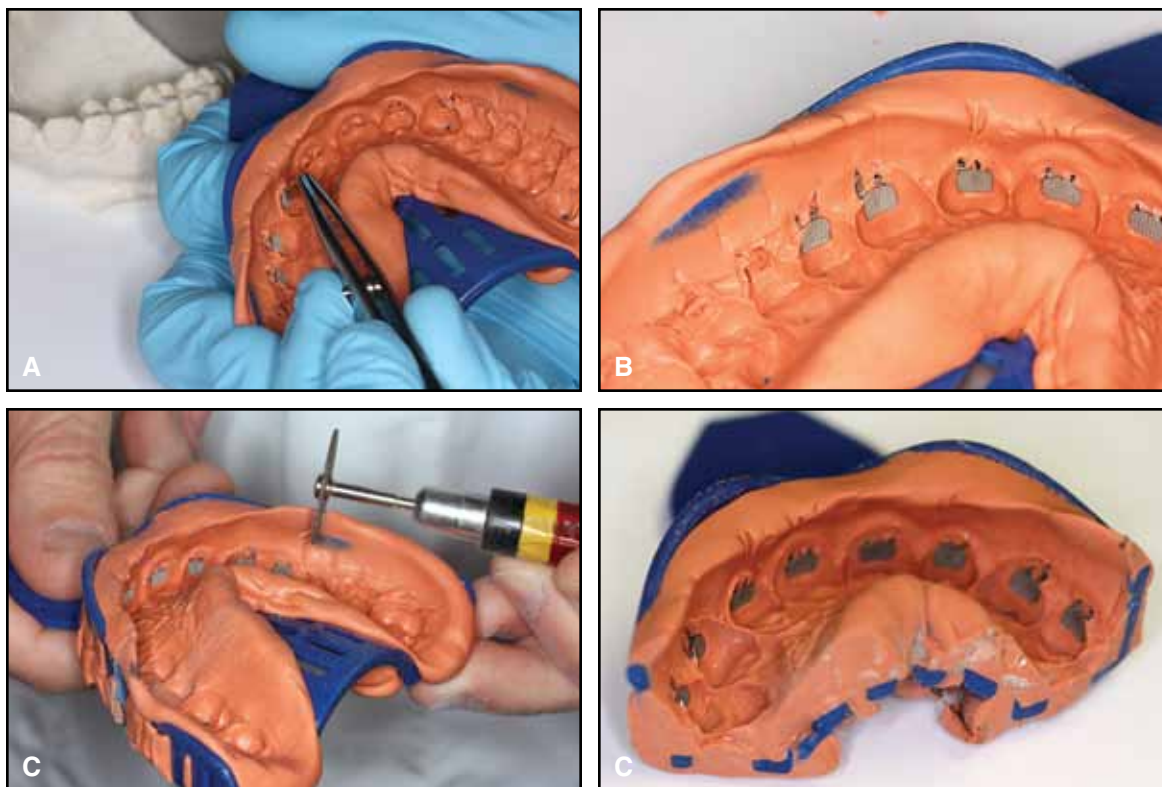
**Dr. R. Faber**



**Fig. 2 Patient after temporary debonding of upper 4-4 brackets.**



**Fig. 3 Upper vacuum-formed retainer with brackets and wires blocked out.**



**Fig. 4** A. New brackets seated in polyvinyl siloxane (PVS) impression. B. Brackets flush with tooth surfaces on impression. C. PVS impression and tray cut anterior to bonded teeth.

Instruct the patient to wear the retainer full-time, with the explanation that non-compliance will result in extended treatment time.

4. Carefully insert new brackets into the PVS impression (Fig. 4A), ensuring that they are completely seated in their correct positions and orientations. Each bracket should appear flush with the impression of the tooth surface (Fig. 4B). Cut the PVS impression anterior to the teeth that are still bonded on each side, so they will not interfere with seating of the tray (Fig. 4C). Thoroughly wash and dry the bracket bases, and store the impression until the patient returns. In the case shown here, our patient returned one week later; as long as the dentition is well retained, however, patients can remain debonded for slightly longer periods without adverse effects.

5. When the patient returns for rebonding, try in

the PVS impression with brackets to ensure proper seating. Pumice, etch, and prime the teeth as usual. A self-curing filled resin is required for bonding, since the opaque PVS will not allow light-curing. Take note of the working time of the material being used; some self-curing resins have working times of only one minute. Quickly load minimal amounts of the resin onto the gingival third of each bracket. Resin will flow occlusally onto the bracket pads as the impression is seated (Fig. 5A). This procedure should be completed while the resin is still fluid; if the adhesive starts to cure, the bracket will not seat completely, and a thick layer of resin will remain under the bracket.

6. Remove excess adhesive with a scaler or a thin polishing bur (Fig. 5B). Tie in the archwire, which should seat passively (Fig. 5C,D), and continue with treatment.

## Discussion

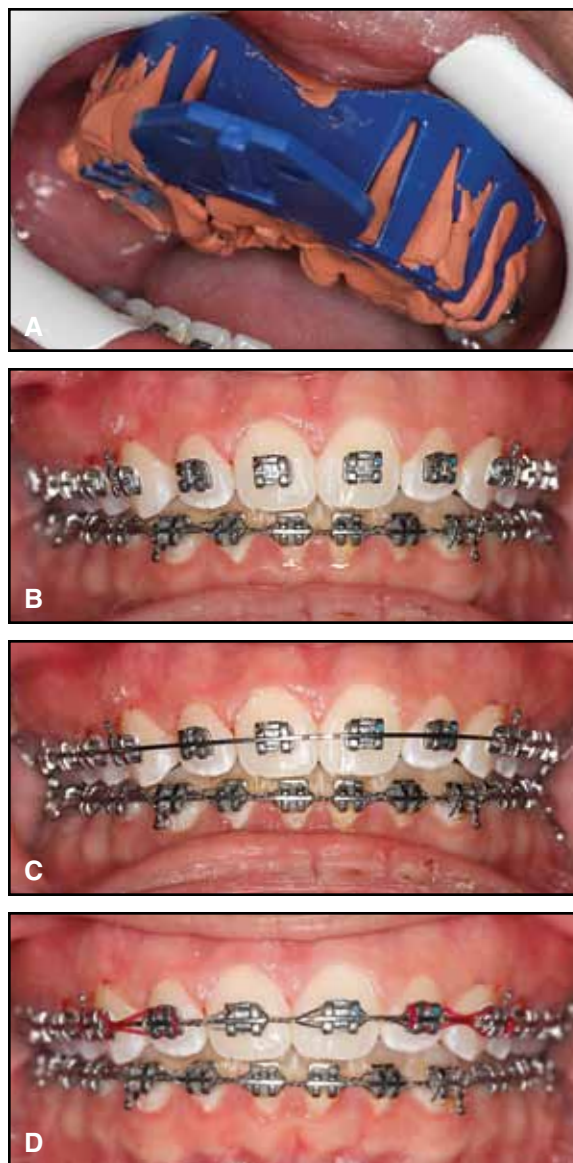
Removing a PVS impression from a fully bonded arch may require slightly more force than removing an alginate impression. To minimize patient discomfort, the impression tray can be cut to cover only the dentition to be debonded plus an extra tooth on either side. Medium-body impression material is recommended over heavy-body material, although a mix of light- and medium-body material, as with Invisalign impressions, might be another option.

In certain cases, this “debond” phase might be an ideal time to reposition brackets as needed, but that would require a six-to-eight-week leveling-and-alignment period before treatment could be resumed. As long as the brackets are well positioned, our protocol prevents such treatment delays and saves the patient and practitioner from lengthy rebonding appointments. It is crucial for the patient to understand that wearing the retainer as prescribed—full time—for this short period will keep treatment from extending for a few more months. That approach is quite effective when a patient is nearing the end of treatment.

We also find that patients who ask to schedule temporary debonding for special events have more incentive to cooperate with oral-hygiene instructions. The doctor should emphasize that there will be little time for gingival inflammation to subside or for severe white-spot lesions to be removed between the debonding procedure and the patient’s special event.

## Conclusion

With increasing numbers of adult patients and a general heightening of interest in more esthetic forms of orthodontic treatment, this kind of temporary debonding protocol can be a useful option to offer patients who are concerned about upcoming special events. □



**Fig. 5** A. PVS impression with embedded brackets seated. B. Patient after rebonding and polishing. C. Insertion of .018" × .025" stainless steel archwire; passive seating demonstrates maintenance of tooth positions during debonding period. D. After archwire ligation.