



A Modified Bonding Technique for Invisalign Attachments

Newly placed Invisalign* attachments are frequently pulled off the teeth when the template tray is removed. Repeated attempts to rebond broken attachments can extend the appointment and cause frustration for both the operator and the patient. This Pearl describes a few simple modifications to the bonding technique that can improve success with attachments.

Technique

Particularly when horizontal rectangular attachments are used, the bond failures tend to occur on the posterior teeth. Beveling the attachment into the crown toward the gingiva will create a less pronounced undercut, allowing the template tray to be removed more easily while still providing some retentive quality (A). The gingival bevel forms a contrasting angle to the tapering clinical crown. Attachments can be modified manually in ClinCheck Pro* to incorporate gingival bevels.

The choice of composite will also influence bonding success. We recommend either Tetric EvoCeram** (shade T), a dense restorative nanohybrid composite, or Transbond LR*** a viscous lingual retainer paste that is readily available and somewhat easier to apply.

Small slits are made in the template tray above the attachment molds (B). We recommend using a ligature cutter. The slits can be placed over all the attachment molds or just the larger posterior ones.

For greater efficiency, the template trays can be filled with composite and the slits cut several days before bonding. The trays are then stored in the Invisalign box with the aligners.

At the bonding appointment, the teeth are isolated with a Nola† retractor and prepared with Adper L-Pop‡ self-etching adhesive. Rather than pressing the head of the curing light against the template tray, as some suggest, we recommend holding the light about a half-inch away. After the initial cure, the light can be moved closer to the tray. We have found that the high-intensity curing light can partially melt the template tray into the composite, although this may be a more significant issue if a low-density flowable composite is used.

Next, the template tray is gently lifted off the attachments, beginning at the slits (C). We prefer to use a heavier sickle scaler rather than a dental explorer, even though this will tear the tray. A replacement will need to be ordered through the patient's ClinCheck, but Invisalign provides these at any stage of treatment for no additional charge.

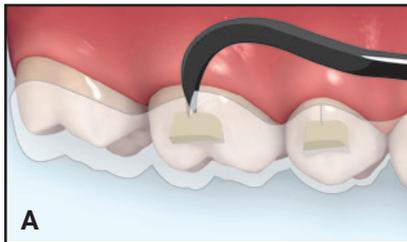
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Our technique can also be applied when a previously worn aligner is used to rebond attachments that break off during treatment. In that case, there is no need to hold the curing light a half-inch away from the thicker aligner. A variant of the technique that avoids having to cut slits in the tray is to use a microbrush to rub a thin layer of petroleum jelly or to apply a nonstick spray (for example, silicone or cooking spray) inside the attachment molds before loading the composite.



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