

TECHNIQUE CLINIC

Recycling Debonded Brackets with an Acid Bath

Brackets often have to be replaced during treatment because of bond failure^{1,2} or the need for repositioning. Using a new bracket may be more time-efficient than reattaching the debonded bracket, but requires a larger, more expensive inventory, especially if attachments are purchased in single-patient sets.

Reusing a debonded bracket traditionally requires burning off the residual adhesive with a flame and then cleaning the bracket and restoring its shine with a microetcher^{*3,4} (Fig. 1).

One drawback of microetching or sandblasting a bracket is that the air pressure can dislodge the bracket from the forceps, causing unwanted delays. Another problem of greater concern is that the sandblasting process is not completely effective in removing the tarnish caused by the flame. Furthermore, the amount of pitting and

corrosion produced by sandblasting is a matter that needs more investigation.⁴

Acid Bath

A simple, quick, and inexpensive way to clean a bracket after the adhesive has been burned off is to submerge the bracket for five to 15 seconds in a solution of 32% hydrochloric acid and 55% nitric acid, mixed in a 1:4 ratio. This process rapidly removes any tarnish, dissolves any adhesive residue, and has a disinfectant effect.

Of course, the acid should

be handled with great caution, and it is absolutely essential that the bracket be thoroughly rinsed under running water for 30 to 60 seconds after the acid bath. Some recycling companies advocate the use of a sodium bicarbonate bath to neutralize residual electrolytes.⁴ The bracket is then air-dried and ready for rebonding.

A bracket that has been recycled with a flame and acid bath looks more like a new bracket than one that has been recycled using a flame and microetcher (Fig. 2), and therefore would be more esthetically pleasing for the patient.

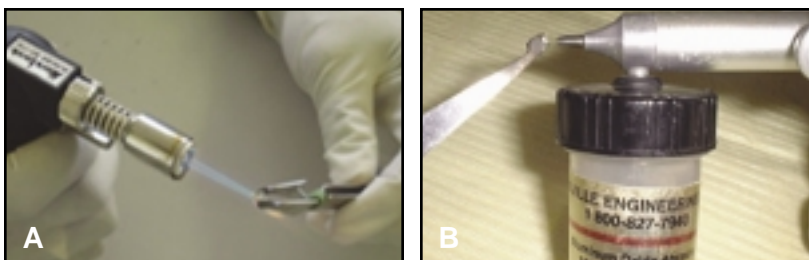


Fig. 1 A. Adhesive burned off base of debonded bracket. B. Bracket cleaned and polished by sandblasting with microetcher.



Fig. 2 A. New bracket. B. Bracket recycled with flame and microetcher. C. Bracket recycled with flame and acid bath.

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Conclusion

Recycling brackets among different patients is usually avoided for fear of infection, bond failure, or litigation.^{4,5} When a debonded bracket is reused on the same patient for an emergency repair, however, it can be both cost-effective and mutually acceptable. The acid bath described here will allay any concerns about sterilization. Not only can it save the orthodontist from having to invest in a microetcher and dust cabinet, but it can also reduce the cost of purchasing and maintaining a large bracket inventory.

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