

## FEATURES SECTION

# Letters to the Editor

Dear Editor

The 2006 article entitled 'Twin-Block Re-activation'<sup>1</sup> raises a number of issues that we feel need to be addressed.

The trimming of an undisinfected appliance in the manner shown creates a serious cross-infection hazard in the clinical environment by the airborne dispersal of a bacteria-laden layer of material. Incidentally, this bacteria-laden coating is beautifully illustrated via the curing light on the buccal aspect of the lower block in Figure 8 of the article. Even if it has been previously disinfected, most self-cure orthodontic base-plate acrylics absorb oral fluids during prolonged wear (ask any technician!) and, therefore, all trimming should be undertaken using appropriate dust extraction facilities.

Due to this contamination risk, the brush used for the bonding layer should be single use and, according to the manufacturers instructions, the Triad VLC bonding agent should be bench set for 2 minutes before curing for a further 2 minutes on its own under an appropriate light source. This creates the dispersion layer necessary for the correct bonding of any additional material. Following primary curing, any additional material needs to have an air barrier coating applied (single use brush again) before final curing (4 minutes recommended by manufacturer) to prevent the creation of a new dispersion layer. This dispersion layer and any incorrectly-cured material can be irritant to the skin in prolonged contact. Trimming of the cured material creates a fine respirable dust and therefore dust extraction should again be used, also the SiO<sub>2</sub> filled tray material specified is not intended for prolonged intra-oral use.

Taken as a whole, the timings given in the article do not add up to the 5 minutes stated for the procedure unless a high power light box or similar curing unit of the correct frequency is used. This is a major capital outlay for a very minor procedure and therefore negates one of the authors' arguments against the use of a screw advancement system. Should all the precautions and timings mentioned above be followed we believe that the total for this procedure would be at least 10 minutes of valuable clinical time compared with around 2–3 minutes required for re-activation of a screw advancement system.

With regard to the authors' comments on being unable to trim the upper blocks when using the screw system,

this is no longer a clinical concern. Management of retention of the Twin block phase of treatment is easily carried out firstly, by over-correction of the overjet, and secondly, by gradual reduction of appliance wear to allow closure of the buccal open bites whilst retaining overjet reduction without the need for any block trimming. This has been described where fixed appliances are used after the functional phase<sup>2</sup> or where the twin-block appliance is used alone and acts as the retainer.<sup>3</sup> This both simplifies treatment and reduces cost by eliminating the need for additional clinical time or further retention appliances.

Gavin Carmichael  
Philip Banks

## References

1. Brennan JA, Littlewood SJ, Twin-block Re-activation. *J Orthod* 2006; **33**(1): 3–6.
2. Banks PA, Carmichael GJ. Stepwise overjet reduction by a modified twin-block appliance. *J Clin Orthod* 1999; **33**: 620–23.
3. Banks PA. Retaining treatment results with the advanceable twin-block appliance. *J Clin Orthod* 2005; **39**: 35–38.

Dear Editor

We welcome the comments made by Mr Carmichael and Mr Banks, who developed the twin-block advancement screw system. They raise some interesting points.

As most orthodontists know there is a contamination risk when trimming an intra-oral appliance. This is of course something that orthodontists are faced with daily when adjusting a variety of removable appliances, such as retainers, removable active plates and functional appliances. Mr Carmichael and Mr Bank's comments are a timely reminder to us all when trimming or adjusting any appliance. The reactivation system described in our article in fact requires very little trimming at all, as it is possible to shape the acrylic to the correct morphology before it is set. We maintain that the curing times used are successful, although it is important to use a curing light with an appropriate wavelength for the material.

Finally, it is pleasing to hear that the inability to trim the block in the advancement screw system—a problem the authors initially stated when first describing the appliance—has now been overcome.

As with many areas of orthodontics, there are different approaches to treatment. We feel the approach

we described offers a number of potential advantages. Time will tell whether future clinicians will use the advancement screw system or our reactivation method for twin-blocks in the future.

Simon Littlewood  
Jean Brennan