Letters to the editor

Twin Blocks designed for 24-hour wear

As the originator of Twin Blocks, I wish to contest the protocol and advice presented in the randomized clinical trial (RCT) on Twin Block therapy published in the February issue (Parekh J, Counihan K, Fleming PS, Pandis N, Sharma PK. Effectiveness of part-time vs full-time wear protocols of Twin Block appliance on dental and skeletal changes: a randomized controlled trial. Am J Orthod Dentofacial Orthop 2019;155:165-72). My intention in making this criticism is to avoid a potential increase in the failure rate if part-time wear is adopted in preference to full-time wear.

In the original description of the Twin Block protocol, I wrote that "Twin Blocks are designed to be worn 24 hours per day to take full advantage of all functional forces applied to the dentition, including the forces of mastication."[1] The most crucial time to establish good cooperation with the patient is in the first few days after fitting the Twin Blocks, when the patient is learning to adjust to the new appliance. Twin Blocks have the unique advantage compared with other functional appliances that they can be fixed to the teeth. Such temporary fixation guarantees full-time wear, 24 hours per day, and excellent cooperation is established at the start of treatment.

After 10-14 days, when the patient has adapted to the Twin Block and is wearing it comfortably, the appliance can be removed. If cooperation is doubtful at any stage of treatment, the operator should not hesitate to fix the appliance in for 10 days to regain control and restore full-time wear. After 10 days of full-time wear, the patient is more comfortable with the appliance in the mouth than without it.

These tissue changes are reflected in the clinical signs after fitting Twin Blocks. Within a few days the patient experiences pain behind the condyle when the appliance is removed. From the studies of histologic changes in animal experiments it may be deduced that retraction of the condyle results in compression of connective tissue and blood vessels and that ischemia is the principal cause of pain.

Temporary fixation of Twin Blocks therefore represents the best method of ensuring full-time wear and I have observed this conclusively over 4 decades of Twin Block therapy. In my opinion, Parekh et al did not follow a reliable protocol for successful cooperation with the use of removable Twin Blocks.

A previous multicenter RCT in the U.K. led by O'Brien and Sandler[2] had a failure rate of 33.6%. The high failure rate was attributed to excessively thick occlusal blocks, which represented a departure from the original design and protocol for the Twin Block technique. This compares to a failure rate in my original D.D.Sc. thesis of 6.7% for 148 consecutively treated patients.

I strongly recommend that the findings of this RCT should be rejected in favor of temporary fixation of Twin Blocks to establish full-time wear as the treatment of choice. This protocol has been tried and tested for 4 decades and is the most effective approach to maximize cooperation for mandibular advancement in Twin Block therapy.

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2. O'Brien K, Wright J, Conboy F, Sanjie YW, Mandall N, Chadwich S, et al. Effectiveness of treatment for Class II malocclusion with the Herbst or Twin-block appliances: a randomized, controlled trial. Am J Orthod Dentofacial Orthop 2003;124:128-37.

Part-time vs full-time wear of Twin-block appliance: Can we rejoice?

With great enthusiasm, we read the article comparing part-time (PT) and full-time (FT) wear protocols for the Twin-block appliance (Parekh J, Counihan K, Fleming PS, Pandis N, Sharma PK. Effectiveness of part-time vs full-time wear protocols of Twin-block appliance on dental and skeletal changes: A randomized controlled trial. Am J Orthod Dentofacial Orthop 2019;155:165-72). This was a much-awaited study for