- Moorrees CFA, Fanning EA, Hunt EE. Age variation of formation stages for 10 permanent teeth. *J Dent Res.* 1963;42:1490-1502.
- 15. Jarvinen S. Incisal overjet and traumatic injuries to upper permanent incisors. A retrospective study. *Acta Odontol Scand.* 1978;36:359-362.
- Ravn JJ. Dental injuries in Copenhagen school children—school years 1967-1972. *Community Dent Oral Epidemiol*.1974;2:231-245.
- Robertson A, Andreasen FM, Andreasen JO, Noren JG. Long-term prognosis of crown-fractured permanent incisors. The effect of stage of root development and associated luxation injury. *Int J Paediatr Dent*. 2000;10:191-199.
- Maguire JA, Murray J, Al-Majed I. A retrospective study of treatment provided in the primary and secondary care services for children attending a dental hospital following complicated crown fracture in the permanent dentition. *Int J Paediatr Dent*. 2000; 10:182-190.
- 19. Cvek M. Prognosis of luxated non-vital maxillary incisors treated with calcium hydroxide and filled with gutta-percha: A retrospective clinical study. *Endod Dent Traumatol.* 1992;8:45-55.
- 20. Stormer K, Jacobsen I. Hvor funksjonsdyktige blir rotfylte unge permanente incisiver? *Nordisk Forening for Pedodonti*. Bergen, Norway: Arsmote; 1988.

- 21. Trope M, Maltz DO, Tronstad L. Resistance to fracture of restored endodontically treated teeth. *Endod Dent Traumatol.* 1985;1:108-111.
- 22. Hernandez R, Bader S, Boston D, Trope M. Resistance to fracture of endodontically treated premolars restored with new generation dentin bonding system. *Int Endod J.* 1994; 27:281.
- 23. Lui JL. Composite resin reinforcement of flared canals using light-transmitting posts. *Quintessence Int.* 1994;25:313-319.
- 24. Katebzadeh N, Dalton C, Trope M. Strengthening immature teeth during and after apexification. *J Endod*. 1998;24:256-259.
- 25. Sirimai S, Riis DN, Morgano SM. An in vitro study of the fracture resistance and the incidence of vertical root fracture of pulpless teeth restored with six postand-core systems. *J Prosthet Dent*. 1999;81:262-269.
- 26. Taylor JK, Jeansonne BG, Lemon RR. Coronal leakage: Effects of smear layer, obturation technique and sealer. *J Endod*. 1997; 23:508-512.
- 27. Kinirons MJ, Sutcliffe J. Traumatically intruded permanent incisors: A study of treatment and outcome. *Br Dent J.* 1991;170:144-146.
- Turley PK, Crawford LB, Carrington KW. Traumatically intruded teeth. *Endod Dent Traumatol*. 1987;57:234-244.

## Abstract of the Scientific Literature

## EFFECTIVENESS IN CORRECTING CLASS II MALOCCLUSION WITH A FIXED TWIN-BLOCK APPLIANCE

Compliance is critical to successfully treat a removable functional appliance. To increase patient's cooperation, several traditional removable appliances have been modified and transformed to fixed therapy. This prospective cohort study evaluated the effectiveness of a fixed twin-block appliance in 32 children with Class II Division I malocclusion over a 2-year period. Assessment of the study casts and cephalometric radiographs indicated that the modified clip-on twin-block appliance is an effective and rapid method of treating Class II malocclusion. A substantially improved treatment completion rate was observed.

**Comments:** The authors demonstrated an increase of patient's compliance rate and treatment success with slight modification of a functional appliance. Techniques on appliance fabrication and placement were meticulously described in the materials and methods section. An apparent strength of this clinical investigation was the prospective nature of the study. **BL** 

Address correspondence to Dr. Michael Read, Unit of Orthodontics, Department of Medicine and Surgery, University of Manchester, Higher Cambridge Street, Manchester M15 6FH, UK.

Read MJF, Deacon S, O'Brien K. A prospective cohort study of a clip-on fixed functional appliance. *Am J Orthod Dentofacial Orthop.* 2004;125:444-449.

8 references

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