

*European Journal of Orthodontics* 29 (2007) 322–323  
doi:10.1093/ejo/cjm029

### The Invisalign® system (2006)

Editor: Orhan C. Tuncay

Publisher: Quintessence Publishing Co. Limited, New Malden, Surrey, UK

Price: £140.00

ISBN: 1-85097-127-7

This book is 334 pages of A5 set out in 34 chapters. There are 29 contributing authors, of whom five are American and two European academic orthodontists. There are five American orthodontic practitioners and one materials scientist accompanied by 15 Invisalign engineers, technologists, and orthodontists plus an architect. The architect is involved in writing the last chapter on surgery design.

Because 19 of the chapters are written by Invisalign employees, you must expect the book to have a particular point of view and it does, in fact, read like a *vade mecum* of

the technique. The vacuum-firing technique of Invisalign is traced back to 1896 and the orthodontic use of the approach is attributed to Kesling (1945) with his positioner.

The concept involved in Invisalign is explained as making a duplicate cast of the malaligned teeth that are then repositioned by sawing them from the model and sticking them back on in a desired position, as in the eponymous Kesling set-up system. A vacuum-formed, clear plastic mould is then made of the teeth in their new position to which they are designed to move when the clear plastic

appliance is put in place on the malaligned dentition. On page 5 we are informed 'anterior spaces can be closed and minor rotations can be corrected'.

There is a chapter on Essix retainers and explanations provided of how these are not Invisalign appliances. In the Essix technique, there is a full range of movements including root torque. Space is made by air rotor stripping, the ortho-strip system, and teeth are moved by blocking out selectively on the model before fabrication. There are chapters on impression technique, Invisalign software, and planning and prescription writing. There are a large number of diagrams of the theoretical outcome and many examples of successfully treated cases. Tuncay writes an excellent well-referenced chapter on the biology of tooth movement. The chapter on Invisalign and orthognathic

surgery explains that the fixed-appliance technique is used before, during, and after surgery. This is then followed by a further Invisalign phase.

Many cases are shown, apart from the surgical patients, which are essentially mild presentations in non-growing patients. What is not presented is a critical appraisal of the outcome of the orthodontic results, nor is there a cost/benefit or risk/benefit assessment.

Those who wish to view the progression of the Invisalign process will enjoy this book with its very high quality production and graphs and illustrations. Those who wish on the other hand to find a rigorous appraisal of the Invisalign clinical technique will be disappointed.

Neil Pender