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Mini-implants in orthodontics. Innovative anchorage concepts (2008) Editors: Björn Ludwig, Sebastian Baumgaertel and S. Jay Bowman Publisher: Quintessence Publishing Co. Ltd, New Malden, Surrey, UK Price: £175.00 ISBN: 978-2-91255-050-7

At first glance, this book on mini-implants appears to be very promising since it brings together recognized authors from both Germany and the United States of America where indirect and direct anchorage mechanics, respectively, appear to predominate. However, this potential strength has not been fully realized and it is disappointing that the chapters have not been better edited to improve consistency and minimize repetition. For example, whilst the title refers to mini-implants, much of the text refers to mini-screws. In addition, given the pace of change in this new field, it would have been helpful for the references to be contemporaneous with the book's final draft stage.

The first two chapters are introductory ones on the background to mini-implant and conventional anchorage, respectively. Since the authors state that their intention is to 'familiarise the beginner with the subject', it would be more helpful if the fundamental differences between implants and mini-plates had been detailed. Indeed, Figures 1.5 and 1.6 are not clearly explained and are rather atypical illustrations of miniplate usage.

Chapter 3 entitled 'Assessment and Selection' provides very useful advice for beginners on how to choose a miniimplant system according to its design features. This chapter is thorough and well informed, although it does contain some erroneous comments, e.g. that mini-implants originated from prosthetic implants and that a 1:1 ratio of head/neck to body length is 'preferred'. In addition, some of the conclusions should be more circumspect, e.g. that cylindrical body designs are preferable to conical ones (since the supporting references contain little actual evidence of this), directional control is better with the inclusion of a pre-drilling step, and pre-sterilized screws are ideal (again with little evidential support). This chapter also usefully clarifies the frequently misunderstood paradox whereby mini-implants display histological bone-metal contact, but are not clinically osseointegrated.

Chapter 4 describes the practical steps involved in miniimplant planning and surgery in an easy-to-follow manner, but would benefit from less repetition both within its text and with other parts of the book. The following chapters (5 and 8) deal with the clinical stages of insertion and subsequent clinical scenarios and contain many illustrations of novel means of forming (indirect) tooth and mini-implant anchorage units, but it is disappointing (given the number of authors) that radiographic and longitudinal clinical case illustrations are infrequent. While many of these examples will stimulate experienced mini-implant users, they are not readily suitable for beginners (who usually find it much easier to apply direct traction). Again with novices in mind, it is unhelpful that the common clinical scenario of anterior tooth retraction is significantly flawed since there is no mention of potential biomechanical side-effects (e.g. lateral open bites resulting from inadvertent molar intrusion) and the beneficial effect of powerarms in this respect.

Chapter 5 is entitled 'Risks and Prevention Strategy', but includes substantial repetition with the third chapter. More

importantly, since many orthodontists are concerned about the possibility of root damage, it is disappointing that this issue, root repair mechanisms, and the possible effects of root proximity are not adequately discussed. Chapter 6 deals with practical issues such as sterilization, but the level of detail provided on German legislation and requirements is not universally applicable to the English-reading audience.

In summary, this book is a worthwhile addition to the rapidly evolving field of mini-implant anchorage and contains many varied and stimulating clinical application examples. However, it will disappoint those orthodontists seeking a detailed step-by-step guide on introducing mini-implants into their routine fixed appliance practice since there is insufficient detail of direct traction and the relevant biomechanics.

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