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Biomechanics and esthetic strategies in clinical orthodontics (2005)

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This is a luxurious, large-format, hard-bound and lavishly-coloured textbook, which analyses a wide array of topics pertinent to biomechanics utilized in the correction of various malocclusions. The record of the editor and his career at the University of Connecticut, a school which has provided a substantial portion of the currently available knowledge in the field, gives a clue of what is to follow.

The book is divided into 18 chapters contributed by 20 authors. Chapter 1 contains the basics of mechanics in tooth movement and could be considered as an overview or introductory text for first year graduate students. In Chapter 2, a summary of the biology of tooth movement is provided, which actually may have no place in such a technically-orientated and clinically-relevant text; besides it is very difficult to give a summary of current knowledge of the issue in 18 pages, excluding the space reserved for photographic and tabular material. The basics of individualized orthodontic diagnosis are listed in Chapter 3. Again some material irrelevant to the topic, such as standard growth curves and general guidelines for clinical examination, cast analysis, and hand and wrist radiograph interpretation, are prominent in the text, although a more relevant smile aesthetic analysis is also included. Chapter 4 consists of a series of three case reports on individualized orthodontic treatment planning, which could also have been omitted. An interesting text on the social physiology of facial appearance follows in Chapter 5, where the facts on averages, symmetry and expressiveness as they relate to aesthetics are provided. In Chapter 6, the first to be directly related to the title of the book, Björn Zachrisson contributes a thorough analysis of smile aesthetics and tooth display. Chapter 7 deals with deep overbite correction and includes a series of cases with pre-, post- and in-treatment photographs of various biomechanical configurations. Open bite treatment follows in Chapter 8 and non-extraction Class II treatment in Chapter 9, with only some of the appliances used in treatment. Photograph

standardization might be an issue in these sections; a wide variation of red is noted, ranging from 'cold' red, almost dark pink, to 'bleeding' red, probably because the chapters have been contributed by different authors. In Chapter 10 the biomechanics of extraction space closure are analysed; however, in the vast majority of cases the biomechanical setup is limited to the use of the T-loop. Chapter 11 presents a set of guidelines for treatment of developing Class III malocclusions and Chapter 12 provides treatment strategies for developing Class III patients, which is basically a three-page text illustrated with photographs of three cases. These two chapters could have been incorporated into a single section, especially in the light of the content of the subsequent chapter (13) which deals with the biomechanical aspects of modified protraction headgear. Chapter 14 is an interesting treatise on the subject of implant-anchorage, involving palatal and zygomatic, as is Chapter 15 which includes anchor plates and their use. In Chapter 16 the biomechanical factors in surgical orthodontics are discussed extensively through cases of mandibular and maxillary distraction osteogenesis and osteotomies. Optimal finishing guidelines are given in Chapter 17, whereas the aesthetics-targeted multidisciplinary treatment is analysed in the final chapter by the eminent specialist of the topic, Vincent Kokich.

Overall, the book contains much more material than that implied by the title, some of which is not related to the topic *per se*, and was probably incorporated to provide a more complete orthodontic text. Overall, this is a useful tool for graduating orthodontists and clinicians who need to familiarize themselves with current techniques and procedures of contemporary treatment. It is also recommended as a standard clinical text in the field because it brings together for the first time evidence previously published in articles and books or presented at conferences by leading scholars.

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