

K.W. Higuchi (ed.)

Orthodontic Applications of Osseointegrated Implants

2000. 218 p., 550 illustr., ca. 400 colored, DM 256,-, ISBN 0-86715-356-3 (Quintessence Publishing Co, Carol Stream, Ill.)

This book contains contributions from eleven authors on different aspects of orthodontic implant application. In Chapter 1 the maxillofacial surgeon Kenji W. Higuchi gives a short overview of the principle of osseointegration in the prosthetic repair of extremity and facial injuries. He also clarifies the specific requirements for osseointegrated implants in dentistry. The possibilities of replacing congenitally missing or lost teeth are discussed as well as the use of implants as temporary stationary anchorage for otherwise impossible orthodontic tasks.

Chapters 5 and 9 also provide basic knowledge. In the former, the reader finds basic principles of implant anchorage explained theoretically and exemplified in case reports; in the latter the physiologic and anatomic basis including the question of latency time before loading is considered.

The orthodontist W. Eugene Roberts shows that it is possible to load retromolar screw implants for orthodontic anchorage immediately after surgery, provided there is sufficient cortical

bone and the implant is out of occlusion. This protocol works because orthodontic force is relatively low and continuous compared to occlusal forces.

Chapter 6 details the use of the Onplant, which is placed subperiostally onto the cortical bone without the need for bone drilling. This chapter is currently only of historical significance because the manufacturer has ceased further development of the product.

In Chapter 7 the prosthodontist Frank M. Spear discusses the prosthodontic requirements in combined orthodontic/prosthodontic treatment from functional and esthetic aspects.

In Chapter 8 the maxillofacial surgeon Larry J. Oesterle gives a good overview of the use of implants in children and adolescents. He explains facial growth in all spatial planes of space and makes recommendations on the earliest possible timing of implant care in these patients. These recommendations are specified for the anterior and the posterior segments of the upper and lower jaws. Both chapters contain eminently important information for orthodontic treatment planning.

Chapter 10 deals with the use of implants in distraction osteogenesis, a topic of interest primarily to maxillofacial surgeons.

Chapters 2, 3 and 4 are of great practical relevance to the orthodontist. They give many examples of implant care in which implants are placed before orthodontic treatment, serve as stationary anchorage during treatment, and are used as prosthodontic abutments after the removal of orthodontic appliances. While temporary anchorage implants are removed after orthodontic treatment so that their positioning is not a critical matter, permanent implants have to be placed precisely to match not the given situation but the planned treatment result. Consequently the surgeon cannot use the teeth for orientation, because they will be moved during orthodontic treatment. To help deal with the difficult problem of precise implant positioning in such situations, Chapter 3 gives clear, well illustrated instructions which are readily comprehensible and practical for both the surgeon and the orthodontist. The decisive point is the creation of a reference system on the plaster casts, which is independent of tooth positions and facilitates the precise transfer of implant positions from the wax setup to the intraoral situation by means of special templates.

The authors represented in this book are excellent, mostly US-American specialists from the fields of anatomy, growth and development, prosthodontics, maxillofacial surgery, and orthodontics. As a striking feature the authors put much weight on interdisciplinary coordination of treatment. These multidisciplinary cases can achieve good results only through trust-based cooperation on the part of all specialists involved; the reader can infer functioning communication of this kind from the impressive clinical cases shown.

In this book the reader finds a synthesis of fundamental scientific principles and excellent clinical results. Reading it is a pleasure and sometimes even exciting, which is saying a great deal for a dental textbook. This generously illustrated book comes in an excellent print quality and is reasonably priced. It should be read by specialists involved in the care of orthodontic/implant patients. It will find its place as a reference for basic knowledge as well as for treatment planning and procedures.

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