ORTHOGNATHIC SURGERY:
PRINCIPLES & PRACTICE

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ELSEVIER
To my wife, best friend and Soul mate Patti, and our two sons, Joshua and David who have grown into fine young men.

Jeffrey C. Posnick
When I was asked by Jeff Posnick to write a foreword to his new book on orthognathic surgery, I said yes, without hesitation. I have known and respected Jeff since he was an enthusiastic, curious, and very bright student at the Harvard School of Dental Medicine, class of 1977. These formative years as a student were instrumental in the subsequent development of his interests and career in craniofacial and orthognathic surgery. Jeff would attend the Children's Hospital Craniofacial Clinic on many a Friday afternoon where he would observe Joseph Murray, John Mulliken, and me interacting with complex craniofacial patients, their families, our students and residents and the rest of our team. From the beginning, I liked Jeff personally, and I developed a relationship with him because he was very attentive and asked many probing questions. He did this not to show off (as Harvard students have been known to do) but to satisfy his inherent curiosity and eagerness to learn. To this day, Jeff will occasionally call to discuss a case and ask for advice, not because he does not have his own ideas or because he does not know what to do, but to check with someone else to see if that person has something to add. This is consistent with his desire to obtain the best information to help each patient and to educate himself. When you give Jeff advice, he always has probing follow-up questions to test your knowledge and recommendations. I have very much enjoyed these interactions over the years, even when our opinions have differed. I also admire Jeff's persistent "sense of wonder" during his long career.

Never having written a foreword before, I considered the role of the Foreword and Foreword writer. I was surprised to find that most texts in surgical disciplines have a Preface or an Introduction written by the author, telling how the author became interested in the subject of the book and describing how the book came about. The Preface or Introduction may also contain a summary of the contents of the book. The less common Foreword, on the other hand, is a short introductory statement written by another than the author. The writer of a Foreword may be an expert in the field, an author of a similar book and may have a relationship with the author. Presumably, good things will be said about the book, and the author of the Foreword will tell the reader why reading the book is worthwhile. In this respect, the Foreword may be helpful to the publisher for the purpose of marketing.

The more I began thinking about the task at hand, the more onerous it seemed to become. There was no doubt in my mind that this book would be a major contribution to the field, as was Jeff Posnick's 2-volume book: Craniofacial and Maxillofacial Surgery in Children and Adolescents, Philadelphia, WB Saunders, 2000. Dr. Paul Tessier wrote in his Foreword to that book: “Thanks go to Dr. Posnick for his overall work and to the publisher for accepting such an abundance of images for printing. As we approach the year 2000 (which has no quantitative reality), this book is already a landmark in craniofacial surgery.” M. Michael Cohen Jr. wrote a second foreword calling it a “tour de force” and noting that Jeff wrote 40 of 45 chapters, making it an unusual single-authored book relative to the primary subject. Well, Orthognathic Surgery: Principles and Practice is equally a “landmark” and a “tour de force” and there is no use in trying to say something clever about it. Anyone who reads this book will find that it speaks for itself: “Res ipsa loquitur.”

As with Craniofacial and Maxillofacial Surgery in Children and Adolescents, Orthognathic Surgery: Principles and Practice is a single-authored, 2-volume set and therefore has a consistent format, writing style, and “personality” not usually achieved in a multi-authored and edited textbook. This makes it easier and more pleasant to read. The book is divided into seven sections: Basic Principles and Concepts; Planning, Surgical Technique, and Complications; Classic Patterns and Presentations of Dentofacial Deformities; Frequently Seen Malformations with Dentofacial Deformity; Cleft Jaw Deformities; Post-Traumatic Dentofacial Deformities; and Frequent Aesthetic Considerations in the Dentofacial Deformity Patient. Dr. Posnick wrote 39 of the 40 chapters. The first and only invited chapter is the wonder chapter. The New Perspectives on the Face.”

Jeff Posnick is meticulous and pays obsessive attention to detail. Therefore, each chapter includes comprehensive background material presented with a scholarly review of the pertinent literature. The relevance of this background to the overall treatment planning, execution, and outcome of orthognathic surgery is revealed and all this is supported by the incredible, well-documented, and beautifully illustrated material from Jeff's personal experience and practice. This presentation allows the reader to benefit from Jeff's thinking and his triumphs, challenges, and difficulties.

It is not the role of the Foreword writer to summarize the book. However, I would like to describe the highlights of just two chapters to support my laudatory comments above. Chapter 2 is an account of the pioneers in orthodontics, oral and maxillofacial surgery, plastic surgery, and

craniofacial surgery. Jeff Posnick painstakingly chronicles the critical advances in these specialties that brought us to our current state. The chapter reads like an exciting novel. Not only is the history documented in referenced detail, but also anecdotes of personal relationships between these great leaders and personal communications regarding their thinking, ideas, triumphs, and tribulations are described. The chapter ends by thanking the pioneers for their contributions and an appeal to future generations of surgeons to take up the challenge of creating their own innovations.

Chapter 28 on hemifacial microsomia (HFM), a deformity in which I am particularly interested, is another example of the quality of this text. Jeff Posnick and I have some disagreements in this area, particularly regarding the natural progression of the deformity and timing of treatment. We also disagree about the potential benefits of operative correction during growth, i.e., in the mixed dentition stage. Nevertheless, this chapter is one of the most comprehensive treatises on the condition, what is known of the etiopathogenesis and all the significant issues related to the care of patients with this variable, and in my opinion, progressive facial asymmetry that you will find in one location. He has reviewed the pertinent literature, and presented and critically evaluated the available data. By doing this, he implies the importance of understanding the natural history of the deformity and the patterns of growth in the management of these patients. Jeff Posnick is also correctly cautious and skeptical about the use of distraction osteogenesis for early correction. My experience is somewhat different. However, Jeff presents the facts as he sees them, and the conclusions are debatable but fair.

Much has been written on the subject of orthognathic surgery from its history, basic biology and physiology of the operations, descriptions of the techniques, peer-reviewed outcome studies, to review articles and textbooks. The challenge in writing about a common subject is to bring new insights and information to the readers; to say something new or significant and not to simply say what has already been said. Jeff Posnick meets this challenge in Orthognathic Surgery: Principles and Practice. It is comprehensive, well referenced, data supported, and scholarly. Also of note is the amazing number of quality color illustrations, a credit to Jeff and to the commitment of the publisher.

I started this project on a beautiful, early summer weekend in Boston, thinking I would skim the chapters quickly for a few hours to get a feel for the book. Not by choice or plan, however, I spent the entire weekend reading the book; I could not put it down. I suspect the readers will have the same experience. This text should be required reading for all surgeons interested in orthognathic surgery.

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The treatment of dentofacial deformities has come a long way since 1897 when Vilray Blair, with Edward Angle’s coaxing, completed bilateral body osteotomies under chloroform anesthesia to setback a prognathic mandible and establish an improved occlusion. The 70-minute operation conducted at the Baptist Hospital in St. Louis, Missouri, also included placement of a custom gutta-percha interocclusal splint and application of intermaxillary fixation.

The field of orthognathic surgery advanced by small increments over the next 6 decades until Hugo Obwegeser executed what has now become the three classic orthognathic procedures: Le Fort I (maxillary) osteotomy with down-fracture and disimpaction; intraoral sagittal split ramus osteotomies of the mandible; and the intraoral oblique osteotomy of the chin. His published results in the 1950s and presentations throughout the 1960s disseminated this early work. The animal model research carried out by William Bell confirmed the safety of these osteotomies and set the stage for refinements in orthognathic procedures by practicing surgeons. During this same timeframe, Hans Luhr boldly challenged standard thinking of osteotomy and fracture healing and stabilization techniques with his concepts of rigid metal plate and screw fixation. Simultaneously, Paul Tessier’s imaginative introduction of craniofacial surgery energized thinking concerning the reconstruction of all head and neck conditions.

Today, knowledge of how to safely improve the quality of life for the individual with a dentofacial deformity is extensive. The object is no longer limited to achieving short-term improved occlusion. Currently, the triad of improved quality of life by achieving long-term dental health, enhanced facial aesthetics, and an open airway represent standard thinking. There still remain limitations relating to the uneven geographic distribution of experienced dedicated clinicians and the financial barriers to the correction of dentofacial deformities. However, the value of treatment to improve lives is undisputed.

The last comprehensive textbook on the subject—*Surgical Correction of Dentofacial Deformities* edited by Bell, Proffit, and White (1980)—had a major impact on patient care and remains a landmark in the field. Since then, other published texts have been useful but not comprehensive. After setting the outline for this project, my initial intention was to have experts in the field make contributions. I soon realized this was impractical if a consistent and comprehensive level of cohesive knowledge on the subject was to be compiled in a timely manner. In writing this single-authored text (the exception being a chapter contribution by M. Michael Cohen Jr.), I enlisted the help of clinicians from a spectrum of specialties to read each chapter for accuracy, adequacy of depth, and readability. This included critiques from academicians, clinicians in practice, past surgical fellows, and residents in training. They came from a spectrum of specialties, including oral and maxillofacial surgery, orthodontics, periodontics, prosthodontics, speech pathology, otolaryngology/head and neck surgery, plastic surgery, anesthesiology, medical genetics, sleep medicine, radiology, psychology and psychiatry, and pathology. I am grateful for their suggestions, as each brought a different perspective and individual criticism. By clarifying current knowledge on the subject, I hope this text encourages quality care and further advances in the field.

I would also like to thank my patients who have allowed the use of their case studies as teaching instruments. The presentation of clinical problems and real-life solutions remains an invaluable way to convey this knowledge. Their contributions will no doubt minimize treatment errors and optimize results for future patients.