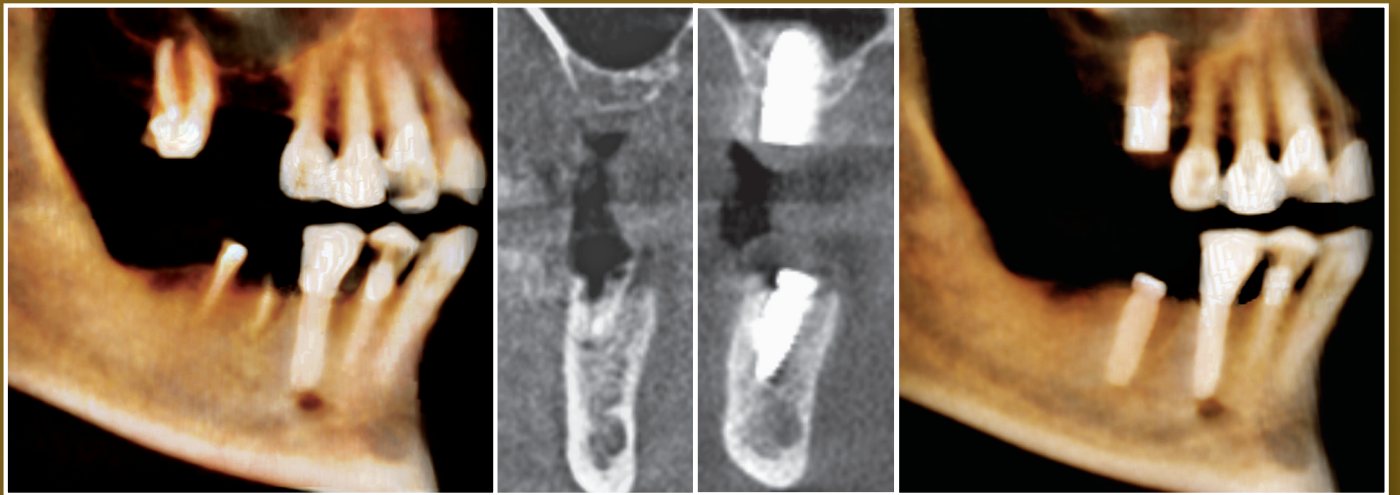


MINIMALLY INVASIVE DENTAL IMPLANT SURGERY



EDITED BY
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WILEY Blackwell

Minimally Invasive Dental Implant Surgery

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Memorial to Jean-Francois Bedard



Remembering a great son, husband, father, and friend ... To Deanna and all the family, words cannot describe your loss and sorrow. Any time spent with this special man was both a joy and privilege. Jean was and will always be the unique fun-loving soul that we all loved to be with. His love for you and the kids was both obvious and spoken. He treasured you greatly in his heart, and when he was away you were always on his mind. We shared with Jean many outstanding moments on the mountain, at meetings, at great restaurants, even in the Starbucks' line ... that will not be forgotten. Jean was kind hearted, passionate, exacting, and highly skilled. He truly enjoyed life to the fullest! Please accept our deepest sympathies, you will remain in our thoughts and prayers as you move forward through this tragedy.

Dan and Spring Cullum

Foreword

It has been a joy and privilege to be asked to write a *Foreword* for this beautiful book *Minimally Invasive Dental Implant Surgery*, edited by two eminent, world-renowned colleagues, Drs. Cullum and Deporter.

In the past years there has been an exponential increase in scientific information in implant dentistry, and it is really important that what is learned from basic and clinical research should flow in a clear and direct way to the practicing professional. In the field of biomedicine there is an ever increasing demand for minimally invasive procedures (e.g. robotic surgery) in order to decrease the biological costs for patients. Professional communities must be kept up to date on the most current findings and developments in diverse scientific areas.

Drs. Cullum and Deporter together with many outstanding contributors have provided, in this first-rate book, a comprehensive update of knowledge on many different facets of implant dentistry. This book is sorely needed, and provides an important resource to

implant dentistry which covers the field thoroughly focusing on specific issues that confront the dental implant professional every day. All the most relevant aspects of today's implant dentistry have been covered in this book, and all the material is presented with a rigorous scientific approach. The information, such as the basic principles, the most recent advances, and practical applications, are presented in a well-integrated way. Beautiful illustrated case reports complete the book.

This book is a milestone contribution in implant dentistry, and will set a new standard for many years to come.

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Preface

Developing a minimally invasive mindset ...

A new paradigm in dentistry began with the introduction of osseointegration and the predictable replacement of teeth with dental implants. Innovation and research have helped to refine the associated techniques such that today with careful planning and execution we are able to provide predictable and pleasing esthetic and functional implant treatments for our patients. Minimally invasive surgery is the next step ... using the “least invasive” procedure, with the fewest number of steps and smallest cost. Surgery ... simple, fast, and clean ... **when less is more.**

Advances in technology now allow unprecedented diagnostic and planning capability. Following evidence-based protocols allows ideal implant placement even, where appropriate, with immediate implantation and immediate function. Choosing to utilize site preservation grafting at the time of tooth extraction lessens the later need for dedicated ridge augmentation grafting with its associated trauma and protracted treatment times. Combining or “stacking” multiple bone manipulation and soft tissue grafting procedures permits shorter treatment times, and using truly short implants helps to avoid complications in posterior jaw sites.

With surgery there is always risk. Flapless surgery can minimize surgical trauma, but comes with limited visibility and the potential for complications and unfavorable outcomes without adequate training and experience. Using computer-guided surgery also comes with risks and requires considerable time and investment to achieve competence. Technology is not a substitute for surgical training, experience or judgment, and significant perils often await its misapplication ... **when more is less.**

The focus of this book is to provide a reference for predictable and minimally invasive surgical techniques that can be progressively applied within a construct of advancing skills. The contributors were carefully chosen with the purpose of exploring the field from different perspectives but with a common philosophy. As in other surgical disciplines, developing a minimally invasive mindset in implant dentistry requires a clear understanding of bone and soft tissue biology, wound healing, dental implant design, and the required surgical and/or prosthodontic skills to achieve predictable and optimal treatment outcomes. It is our hope that this book helps the practicing clinician to achieve these lofty goals.

Thank you to the team at Wiley Blackwell for their efforts and assistance.

Daniel R. Cullum DDS

Acknowledgments

Undertaking a comprehensive textbook is an ominous project. The time demand is more than one could ever have imagined. To that end I wish to thank my family and friends for the time we missed together: my wife Spring in particular has been outstanding in her support and love, my parents for teaching me to work, my dad for instilling a love for dentistry, my office staff and manager Lincoln, for the extra demands of business and busyness. A special thank you to Doug for his contribution and interaction, and to all of the contributors for their efforts and expertise. I want to also thank the many teachers and mentors who have influenced my career and praise God for gifting me with the strength, energy and skill to complete this project! Minimally invasive surgery is more demanding in time, skill and judgment, however, it has changed the way I practice and we want to share the many benefits for our patients.

Dan Cullum

I would like to thank Dan for giving me the opportunity to participate in this project. For over 25 years, I have striven to deliver minimally invasive dental implant treatment using short implants and the OSFE and BAOSFE approaches to sinus floor elevation. This book has been a challenging project. In the end I enjoyed the work and interacting with Dan, contributed a bit myself, and learned a lot from the contributors. Producing a comprehensive book like this one is a group effort. I would like to express my appreciation to all who contributed and wish them continued success and good health in future.

Douglas Deporter

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SECTION I

Technology, Diagnosis, and Treatment Planning