

# Laparoscopic Colorectal Surgery

Second Edition

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# Preface to the Second Edition

*Tempus fugit!* The year 1990 was the first year for reports of laparoscopic methods to treat colonic diseases. It has been a full decade since the first edition of this book, *Laparoscopic Colorectal Surgery*, was published (1996). It was not apparent in the mid-1990s whether this specialized field would become accepted in major departments of surgery, but now it is one of the most rapidly growing areas of laparoscopic surgery. Surgeons experienced in these techniques are being aggressively recruited by medical centers around the world, and most patients are now querying their surgeons about “laparoscopic colon surgery.”

Laparoscopic colorectal surgery was initially one of the slowest areas of development in minimally invasive surgery because it is often complex, multi-quadrant, and frequently involves the treatment of a malignancy. Any one of these reasons were sufficient to give great consideration to the use of a new technique, hence the careful evaluation of laparoscopic colorectal surgery has been a *modus operandi* for surgeons around the world.

This second edition of *Laparoscopic Colorectal Surgery* differs from the first in several important aspects. The first edition was wholly written by Jeffrey Milsom and Bartholomäus Böhm. The second edition now calls on a new coeditor, Kiyokazu Nakajima, a talented surgeon from Osaka University in Japan. This means that the book has major representation in thought and content from three major regions of the world: Asia (Dr. Nakajima, Japan), Europe (Dr. Böhm, Germany), and North America (Dr. Milsom, United States).

We now have authors who have written many of the most important sections of the book and are experienced surgeons, actively performing laparoscopic colorectal procedures: from Asia (Drs. Riichiro Nezu, Junji Okuda, Masahiko Watanabe, and Yoshifumi Inoue), Europe (Drs. Joel LeRoy, Hermann Kessler, Wolfgang Schwenk, Michael Seifert, Steffen Minner), and the United States (Drs. Toyooki Sonoda, Peter Marcello, Richard L. Whelan, Martin Weiser, Sang Lee, and Alessandro Fichera). Again, our intent was to create a diverse, world-wide approach to this continuously evolving field. At the end of each their chapters, we (JM, BB, KN) have added personal comments relating to the chapter.

Thirdly, our new artist, Yuko Tonohira, has added appreciable value to the book in many ways. Ms. Tonohira is a recent art major graduate from Parsons School of Design in New York City. She adds geographic depth to the book as well, since she grew up in Hokkaido, Japan. In addition to her artistic talent, she spent countless hours in the operating rooms, anatomical laboratories, and alongside the authors, learning laparoscopic colorectal surgery firsthand. Her skills and dedication have resulted in a fantastic and uniform presentation for the book, since all illustrations are her work.

The contents of the book have also changed appreciably since the first edition. All chapters have been rewritten. We have shortened some of the basic discussions about such topics as electrosurgery and optics, and have inserted a new chapter on laparoscopic colorectal anatomy (Chapter 7), expanded the number of procedures chapters (including “hand-assisted” chapters). Significantly, we have *added a whole section* on the evidence base in colorectal surgery (Chapter 11).

All in all, we believe that this book should permit the reader an opportunity to quickly grasp most of the important concepts of the field of laparoscopic colorectal surgery. Each of the procedures in Chapters 8, 9, and 10 are set up to be independent of each other, so the busy surgeon may look at the particular operation she/he is about to perform and grasp the “essentials”.

We do not believe laparoscopic colorectal surgery will replace open surgery for all indications, but increasingly over the next decade, laparoscopic methods will improve and become important means to treat colorectal diseases requiring surgery. We no longer fear its use in malignancies, when done by experienced surgeons under the right circumstances, and its use in other indications will certainly continue to grow. Likewise, the technologies used in this field will also develop and greatly improve our capabilities.

As in the first edition of this book, our intent is to expose new information and methods to improve the outcomes of our patients following major colorectal surgery. We do not feel our text demonstrates the only approaches to the laparoscopic treatments of colon and rectal disease. Finally, we sincerely hope that the material presented here will fuel discussions in the surgical community, leading to further improvements in the care of patients around the world.

JEFFREY W. MILSOM, MD  
BARTHOLOMÄUS BÖHM, MD  
KIYOKAZU NAKAJIMA, MD, PhD

# Preface to the First Edition

Inspired by the potential of laparoscopic surgery to bring substantial advantages to patients requiring colorectal surgery, we began to apply laparoscopic techniques to colorectal surgery in late 1991. Now, several years later, this field is still in its early phases of development. Whereas laparoscopic techniques for biliary surgery quickly evolved, such techniques for effective and efficient colorectal surgery have developed slowly. Quantifying the value of laparoscopy in this field also has been difficult. Nonetheless, the possible advantages of removing a section of the intestine with safe anastomosis, all done through small “keyhole” incisions, is so tantalizing that we have continued to focus most of our research in this direction. Our philosophy has been that questions about laparoscopic colorectal surgery must be assessed in a methodical and stepwise manner. After such surgery is demonstrated to be feasible and beneficial in the short term, we plan to delve into studies assessing the underlying mechanisms of these benefits, as well as the long-term benefits.

Using animals initially in 1991, we attempted to establish basic techniques for intestinal resection and anastomosis because, at the time, the literature contained few useful descriptions. We encountered significant challenges, even in animal models in which the mesentery is thin and the bowel is relatively mobile. Early successes in the animal models led us to attempt some simple procedures for benign diseases in humans. This transition was challenging and stimulated us to pursue further training in animals and fresh human cadaver models. Many challenges presented the opportunity to pursue true gastrointestinal surgical research. We toiled over the design of techniques, procedures, and new instruments that might permit more effective laparoscopic colorectal surgery. We especially wanted to define standard techniques for curative surgery in colorectal cancer, seeking to resect along the same anatomic boundaries as in conventional surgery.

Throughout this book, we emphasize a team approach to laparoscopic surgery. Our belief in such an approach evolved naturally from many hours of working together – in the animal laboratory; operating theaters; and sitting across from each other at a table with pens, papers,

and books scattered in front of us. We believe the discipline of laparoscopic colorectal surgery currently to be too intricate and complex to be taken up by the solitary surgeon performing an occasional laparoscopic intestinal operation with personnel not trained specifically in these techniques.

Laparoscopic colorectal surgery will not be an overnight revolution, as occurred with laparoscopic cholecystectomy. The techniques and teamwork that we have struggled to develop are just beginning to reap rewards – only now are laparoscopic procedures often performed in the same time as conventional procedures, with less blood loss and surgical trauma. However, only concerted, sustained efforts already begun in the surgical research laboratories of medical centers and instrument manufacturers along with adherence to the highest professional and patient care goals, will make laparoscopic techniques a genuine and substantial advance in colorectal surgery.

We eagerly present of laparoscopic colorectal surgery – equipment, instrumentation, methods of dissection and suturing, and our ideas concerning education in the field. The book details a personal approach to the surgical treatment of colorectal disease. We do not believe that our approach is the only way to achieve the goals of laparoscopic colorectal surgery and we sincerely hope our text will fuel discussion in the surgical community that will produce further advances.

JEFFREY W. MILSOM, MD  
BARTHOLOMÄUS BÖHM, MD

# Acknowledgments

We wish to acknowledge that many individuals and corporations donated time and expertise in the construction of this second edition.

From the corporate world, Olympus was our staunchest supporter, giving time and energy to the project over several years. In particular we owe much to the talented engineer Mr. Hiroyuko Mino of Olympus Surgical America. His expertise is definitely appreciated for much of the technical aspects of the book. From Tyco (United States Surgical), Stryker, and Applied Medical we also owe much to the understanding and promotion of this book.

In the construct of the manuscript, Koiana Trencheva RN helped us in many tangible and intangible ways, including in the organization of the nascent research and publication efforts of our Section of Colon & Rectal Surgery section at Weill Medical College, Cornell University in New York.

Our new artist, Yuko Tonohira, shares in the direct production of the book, but she also helped in multiple aspects beyond the art work, and for this we are truly grateful.

Our editor at Springer, Beth Campbell, patiently encouraged us throughout the writing of this second edition, and she also supported us in many intangible ways. We owe her many thanks as well.

There are others who should be mentioned . . . to JI, JN, and also to PS, PK, and Dr. SA, you have helped us in many, many ways in making this book a reality, and Dr. Milsom in particular thanks you.

Finally, we again appreciate how such an endeavor, on top of our clinical and administrative responsibilities, has deprived our families of valuable time together. Thus our deepest gratitude goes to our wives Susan, Anke, and Ayako, and our children Alexandra, Geoffrey, Annika, and Stephanie, and Dr. Nakajima's parents Naomi (father) and Haruko. Without their support, it would not have been worthwhile to pursue the second edition.

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