Successful Training in Gastrointestinal Endoscopy
Edited by Jonathan Cohen, New York University School of Medicine, New York, NY, USA

Endoscopy is the primary diagnostic method for GI complaints and is replete with an ever-expanding array of therapeutic capabilities. Successful Training in Gastrointestinal Endoscopy will provide all gastroenterologists with the exact set of skills required to perform endoscopy at the highest level. GI trainees will find it a crucial primer for learning endoscopy; teachers will find it a guide to understand how best to develop the expertise of their students; and experienced practicing gastroenterologists will find it a useful refresher tool to brush up on their existing endoscopic skills and to familiarize themselves with new procedures, including issues of safety and competence while performing them.

With contributions from internationally recognized leaders in endoscopy education and an endorsement by the World Endoscopy Organization, each chapter will examine the specific skill sets and procedure related tasks which must be mastered when learning a particular technique, including:

- Specific descriptions of accessories required
- Standard training methods for the procedure
- Optimal utilization of novel learning modalities such as simulators
- Quality measures and objective parameters for competency
- Available tools for assessing competency once training has been completed

In addition to the 400 high-quality, outstanding color photos, the book comes with a DVD containing over 130 annotated teaching videos of both actual procedures and ex-vivo animal model simulations. These videos will illustrate, in a step by step fashion, the proper techniques to be followed, highlighting clinical pearls from the experts and the most common mistakes to avoid.

Successful Training in Gastrointestinal Endoscopy is a key purchase for all gastroenterologists, whether in training or experienced, to allow them to develop and perfect their endoscopic skills. It is a particularly useful guide for those interested in mastering the latest techniques and procedures and an essential reference for teachers of endoscopy and students alike.
Successful Training in Gastrointestinal Endoscopy
Companion DVD-ROM

This book is accompanied by a companion DVD with:

- Over 130 annotated teaching videos of both actual procedures and ex-vivo animal model simulations.
- A search feature
- All videos are referenced in the text where you see this logo.
Successful Training in Gastrointestinal Endoscopy

EDITED BY

Jonathan Cohen, MD
Clinical Professor of Medicine
New York University School of Medicine
New York, NY, USA
Contents

List of Contributors, vii
Foreword, xi
Preface, xii
Acknowledgements, xiii

Part I The Evolution of Basic Principles and Practice
1 Training in Endoscopy: A Historical Background, 3
   Jonathan Cohen & David A. Greenwald
2 How Endoscopy is Learned: Deconstructing Skill Sets, 16
   Gerald M. Fried & Kevin A. Waschke
3 Training to Become a High-Quality Endoscopist: Mastering the Nonprocedural Aspects, 22
   Sahar Ghassemi & Douglas O. Faigel

Part II Training in the Major Endoscopic Procedures
4 Esophagogastroduodenoscopy (EGD), 31
   Lauren B. Gerson & Shai Friedland
5 Colonoscopy, 42
   Robert E. Sedlack
6 Endoscopic Ultrasound, 73
   Thomas J. Savides & Frank G. Gress
7 ERCP, 85
   Joseph Leung & Brian S. Lim
8 Capsule Endoscopy, 97
   Felice Schnoll-Sussman & David E. Fleischer
9 Deep Enteroscopy, 109
   Patrick I. Okolo & Jonathan M. Buscaglia
10 Choledochoscopy and Pancreatoscopy, 116
    Jeffrey H. Lee & Peter Kelsey
11 Principles of Electrosurgery, 125
    David L. Carr-Locke & John Day
12 The Use of Fluoroscopy for Gastrointestinal Endoscopy, 135
    Douglas G. Adler
13 Pediatric Endoscopy, 143
    Michael A. Manfredi & Jenifer R. Lightdale

Part III Training in Specific Techniques
14 Contrast-Enhanced Endoscopy—Chromo and Optical Contrast Techniques, 159
   Anna M. Buchner, Prateek Sharma, & Michael B. Wallace
vi  Contents

15 GI Hemostasis, 170
   Brian J. Dunkin, Kai Matthes, & Dennis M. Jensen

16 Luminal Dilation Techniques (Strictures, Achalasia, Anastomotic IBD), 188
   Syed M. Abbas Fehmi & Michael L. Kochman

17 Foreign Body Extraction, 197
   Gregory A. Coté, Steven A. Edmundowicz, & Sreenivasa S. Jonnalagadda

18 Endoscopic Mucosal Resection and Endoscopic Submucosal Dissection, 204
   Juergen Hochberger, Elena Kluva, Detlev Menke, Edris Wedi, SangSa Dammer, Peter Koehler, & Karl-Friedrich Bauer

19 Mucosal Ablation Techniques, 237
   John A. Dumot, Bruce D. Greenwald, & Virender K. Sharma

20 Complicated Polypectomy, 246
   Jerome D. Waye & Yasushi Sano

21 Natural Orifice Translumenal Endoscopic Surgery (NOTES®), 261
   Kai Matthes, Mark A. Gramski, & Robert Hawes

22 Bariatric Endoscopy, 270
   Sohail N. Shaikh, Marvin Ryoo, & Christopher C. Thompson

23 Repair of Mucosal Defects: A Primer on Endoscopic Closure of Gastrointestinal Perforations, 282
   Gottumukkala S. Raju

24 Esophageal, Gastroduodenal and Colorectal Stenting, 288
   Peter D. Siersema

25 ERCP Management of Complicated Stone Disease of the Bile Duct and Pancreas, 300
   Nithin Karanth, Jonathan Cohen, & Gregory B. Haber

26 ERCP Management of Malignancy: Tissue Sampling, Metal Stent Placement and Ampullectomy, 313
   Douglas A. Howell

27 Sphincter of Oddi Manometry, 324
   Evan L. Fogel, Stuart Sherman, & Glen A. Lehman

28 Pseudocyst Management, 332
   Michael J. Levy & Todd H. Barin

29 Enteral Access Techniques: Percutaneous Endoscopic Gastrostomy and Jejunostomy, 341
   James A. D’Cesar

30 The Endoscopic Management of Immediate Complications of Therapeutic Endoscopy, 351
   David A. Greenwald & Martin L. Freeman

Part IV Challenges for the Future

31 Assessing Manpower Needs in Gastroenterology and Digestive Endoscopy: Lessons from the Past and Implications for the Future of Endoscopic Training, 359
   Girish Mishra & Alan Balkun

32 Providing Resources and Opportunities for Retraining for Practicing Endoscopists, 367
   John L. Petrini

33 Evolving Role of GI Societies and Industry in Training Endoscopists to Perform New Techniques: Supporting the Process and Setting the Standards, 372
   John A. Martin & Christopher J. Gostout

34 The Importance of Skills Assessment and Recording Personal Outcomes in the Future of Training, 380
   Peter B. Cotton & Roland M. Valori

Index, 385
List of Contributors

Douglas G. Adler, MD, FACC, FASGE
Associate Professor of Medicine
Director of Therapeutic Endoscopy
Division of Gastroenterology and Hepatology
University of Utah School of Medicine
Huntsman Cancer Center
Salt Lake City, UT, USA

Alan Barkun, MD, CM, FRCP(C), FACP, MSc
Chairholder;
The Douglas G. Kinnear Chair in Gastrology
Professor of Medicine
Division of Gastroenterology
McGill University
McGill University Health Centre
Montreal, QC, Canada

Todd H. Baron, MD, FASGE
Professor of Medicine
Director Pancreaticobiliary Endoscopy
Division of Gastroenterology & Hepatology
Mayo Clinic
Rochester, MN, USA

Anna M. Buchner, MD, PhD
Instructor of Medicine
Division of Gastroenterology
Department of Medicine
University of Pennsylvania School of Medicine
Philadelphia, PA, USA

Karl-Friedrich Buerrig, MD, PhD
Department of Medicine III—Gastroenterology, Interventional Endoscopy
St. Bernward Academic Teaching Hospital
Hildesheim, Germany

Jonathan M. Buscaglia, MD
Director, Center for Advanced Endoscopy
Assistant Professor of Medicine
Division of Gastroenterology and Hepatology
State University of New York
Stony Brook, NY, USA

David L. Carr-Locke, MB, FRCP, FASGE
Chief, Division of Digestive Diseases;
Co-Director, Center for Digestive Health;
Director, GI Services
Cornell University Medical College
New York, NY, USA

Jonathan Cohen, MD
Clinical Professor of Medicine
New York University School of Medicine
New York, NY, USA

Gregory A. Coté, MD, MS
Assistant Professor of Clinical Medicine
Indiana University School of Medicine
Indianapolis, IN, USA

Peter B. Cotton, MD, FRCP, FRCS
Professor of Medicine
Digestive Disease Center
Medical University of South Carolina
Charleston, SC, USA

SongSa Dammer, CN
Department of Medicine III—Gastroenterology, Interventional Endoscopy
St. Bernward Academic Teaching Hospital
Hildesheim, Germany

John Day, BBA
Vice President, Marketing
ERBE USA Inc.
Marietta, GA, USA

James A. DiSario, MD, FASGE
Monterey Bay Gastroenterology Consultants
Monterey, CA, USA;
Adjunct Professor of Medicine
University of Utah Health Sciences Center
Salt Lake City, UT, USA

John A. Dumot, DO
Digestive Health Institute
University Hospitals
Cleveland, OH, USA

Brian J. Dunkin, MD, FACS
Professor of Clinical Surgery
Weill Cornell Medical College
Head, Section of Endoscopic Surgery;
Medical Director, The Methodist Institute for Technology, Innovation, and Education
The Methodist Hospital
Houston, TX, USA

Steven A. Edmundowicz, MD
Professor of Medicine
Director of Endoscopy
Washington University School of Medicine
St. Louis, MO, USA

Douglas O. Faigel, MD
Professor of Medicine
Mayo Clinic
Scottsdale, AZ, USA
List of Contributors

Syed M. Abbas Fehmi, MD, MSc  
Assistant Professor  
Division of Gastroenterology  
Department of Medicine  
University of California San Diego  
San Diego, CA, USA

David E. Fleischer, MD  
Professor of Medicine  
Mayo School of Medicine  
Mayo Clinic  
Scottsdale, AZ, USA

Evan L. Fogel, MD, FRCP(C)  
Professor of Clinical Medicine  
Indiana University School of Medicine  
Indianapolis, IN, USA

Martin L. Freeman, MD  
Professor of Medicine  
Interim Director, Division of Gastroenterology, Hepatology, and Nutrition  
Director of Pancreaticobiliary Endoscopy Fellowship  
University of Minnesota  
Minneapolis, MN, USA

Gerald M. Fried, MD  
Professor of Surgery and Adair Family Chair of Surgical Education  
McGill University  
Montreal, QC, Canada

Shai Friedland, MD  
Assistant Professor of Medicine  
Division of Gastroenterology and Hepatology  
Stanford University School of Medicine  
Stanford, CA, USA

Lauren B. Gerson, MD, MSc  
Associate Professor of Medicine  
Division of Gastroenterology and Hepatology  
Stanford University School of Medicine  
Stanford, CA, USA

Sahar Ghassemi, MD  
Director of EUS  
Santa Rosa Community Hospital  
Santa Rosa, OR, USA

Christopher J. Gostout, MD, FASGE  
Professor of Medicine  
Mayo Clinic  
Rochester, MN, USA

Bruce D. Greenwald, MD  
Professor of Medicine  
University of Maryland  
School of Medicine; Greenebaum Cancer Center  
Baltimore, MD, USA

David A. Greenwald, MD  
Gastroenterology Fellowship Program Director  
Associate Division Director  
Montefiore Medical Center; Albert Einstein College of Medicine  
New York, NY, USA

Frank G. Gress, MD, FACP, FACG  
Professor of Medicine  
Chief, Division of Gastroenterology and Hepatology  
State University of New York (SUNY) Downstate Medical Center  
New York, NY, USA

Mark A. Gromski, BA  
Research Fellow in Developmental Endoscopy  
Beth Israel Deaconess Medical Center  
Harvard Medical School  
Boston, MA, USA

Gregory B. Haber, MD, FRCP(C)  
Director, Division of Gastroenterology  
Director, Center for Advanced Therapeutic Endoscopy  
Lenox Hill Hospital  
New York, NY, USA

Robert Hawes, MD  
Professor of Medicine  
Peter Cotton Chair for Endoscopic Innovation  
Division of Gastroenterology and Hepatology  
Medical University of South Carolina  
Charleston, SC, USA

Juergen Hochberger, MD, PhD  
Professor of Medicine and Chairman  
Department of Medicine III—Gastroenterology, Interventional Endoscopy  
St. Bernward Academic Teaching Hospital  
Hildesheim, Germany

Douglas A. Howell, MD, FASGE  
Associate Clinical Professor of Medicine  
University of Vermont College of Medicine  
Burlington, VT, USA  
Director, Advanced Training Fellowship  
Director, Pancreaticobiliary Center  
Vermont Medical Center  
Burlington, VT, USA

Dennis M. Jensen, MD  
Professor of Medicine  
David Geffen School of Medicine at UCLA  
Los Angeles, CA, USA

Sreenivasa S. Jonnalagadda, MD, FASGE  
Professor of Medicine  
Director of Biliary and Pancreatic Endoscopy  
Division of Gastroenterology  
Washington University School of Medicine  
St. Louis, MO, USA

Nitin Karanth, MD  
Center for Advanced Therapeutic Endoscopy  
Lenox Hill Hospital  
New York, NY, USA

Peter Kelsey, MD  
Assistant Director of Endoscopic Services  
Massachusetts General Hospital  
Harvard Medical School  
Boston, MA, USA
List of Contributors

Michael L. Kochman, MD, FACP
Willis Family Professor of Medicine
Vice-Chair of Medicine for Clinical Services
Center for Endoscopic Innovation, Research, and Training
Gastroenterology Division
University of Pennsylvania Health System
Philadelphia, PA, USA

Peter Koehler, PhD
Federal Research Institute for Animal Health (FLI)
Mariensee, Neustadt, Germany

Elena Kruse, MD
Department of Medicine III—Gastroenterology, Interventional Endoscopy
St. Bernward Academic Teaching Hospital
Hildesheim, Germany

Jeffrey H. Lee, MD, FACC, FASGE
Professor
Director of Advanced Endoscopy Fellowship and Training
Department of Gastroenterology, Hepatology, and Nutrition
MD Anderson Cancer Center
Houston, TX, USA

Glen A. Lehman, MD
Professor of Medicine and Radiology
Indiana University School of Medicine
Indianapolis, IN, USA

Joseph Leung, MD, FRCP, FACP, FASGE
Mr. & Mrs. C.W. Law Professor of Medicine
University of California, Davis School of Medicine
Sacramento, CA, USA;
Chief of Gastroenterology
VA Northern California Health Care System
Marin, CA, USA

Michael J. Levy, MD
Division of Gastroenterology and Hepatology
Mayo Clinic
Rochester, MN, USA

Jennifer R. Lightdale, MD, MPH
Assistant Professor of Pediatrics
Harvard Medical School;
Associate in Medicine, Gastroenterology and Nutrition
Children’s Hospital Boston
Boston, MA, USA

Brian S. Lim, MD, MCR
Staff Gastroenterologist
Department of Gastroenterology
Kaiser Permanente
Riverside Medical Center
Riverside, CA, USA

Michael A. Manfredi, MD
Instructor in Pediatrics
Harvard Medical School
Boston, MA, USA;
Associate Director of Endoscopy
Children’s Hospital Boston
Boston, MA, USA

John A. Martin, MD
Associate Professor of Medicine and Surgery
Director of Endoscopy
Division of Gastroenterology
Northwestern University Feinberg School of Medicine
Chicago, IL, USA

Kai Matthes, MD, PhD
Director
Developmental Endoscopy
Department of Gastroenterology
Beth Israel Deaconess Medical Center
Harvard Medical School
Boston, MA, USA

Detlev Menke, MD
Department of Medicine III—Gastroenterology, Interventional Endoscopy
St. Bernward Academic Teaching Hospital
Hildesheim, Germany

Girish Mishra, MD, MSc, FACC, FACP
Vice-Chief & Associate Professor
Director, Endoscopy & GI Fellowship Program
Section on Gastroenterology
Wake Forest University School of Medicine
Winston-Salem, NC, USA

Patrick I. Okolo, MD, MPH
Chief of Endoscopy
Division of Gastroenterology
John Hopkins University School of Medicine
Baltimore, MD, USA

John L. Petrini, MD, FASGE
Chairman
Department of Gastroenterology
Sasson Clinic
Santa Barbara, CA, USA

Gottumukkala S. Raju, MD, FRCP, FACG, FASGE
Professor of Medicine
Department of Gastroenterology, Hepatology, and Nutrition
University of Texas, MD Anderson Cancer Center
Houston, TX, USA

Marvin Ryou, MD
Advanced Endoscopy Fellow
Brigham and Women’s Hospital
Massachusetts General Hospital
Boston, MA, USA

Yasushi Sano, MD, PhD
Director
Gastrointestinal Center
Sato Hospital
Tsukuba, Ibaraki, Japan

Thomas J. Savides, MD
Professor of Clinical Medicine
Division of Gastroenterology
University of California
San Diego, CA, USA

Felice Schnoll-Sussman, MD, FACC
Welf Medical College
Cornell University
New York, NY, USA
List of Contributors

Robert E. Sedlack, MD, MHPE
Division of Gastroenterology and Hepatology
Mayo Clinic
Rochester, MN, USA

Sohail N. Shaikh, MD
Developmental and Bariatric Endoscopy Research Fellow
Division of Gastroenterology
Brigham and Women's Hospital;
Post-Doctoral Fellow
Harvard Medical School
Boston, MA, USA

Prateek Sharma, MD
Professor of Medicine
Division of Gastroenterology and Hepatology
Veteran Affairs Medical Center
University of Kansas School of Medicine
Kansas City, KS, USA

Virender K. Sharma, MD, FASGE, FACC, AGAF
Director
Arizona Center for Digestive Health
Gilbert, AZ, USA

Stuart Sherman, MD
Professor of Medicine
Indiana University School of Medicine
Indianapolis, IN, USA

Peter D. Siersema, MD, PhD
Professor of Gastroenterology
Director, Department of Gastroenterology and Hepatology
University Medical Center Utrecht
Utrecht, The Netherlands

Christopher C. Thompson, MD, MHES, FACG, FACP
Director of Developmental and Bariatric Endoscopy
Brigham and Women's Hospital;
Assistant Professor of Medicine
Harvard Medical School
Boston, MA, USA

Roland M. Valori, MD, FRCP, MSc
Gloucestershire Hospitals NHS Foundation Trust
Gloucestershire, UK

Michael B. Wallace, MD, MPH
Professor and Vice-Chairman of Medicine
Department of Gastroenterology and Hepatology
Mayo Clinic
Jacksonville, FL, USA

Kevin A. Waschke, MD, CM, FRCPC, CPSQ
Director of Therapeutic Endoscopy and Endonography
McGill University Health Centre
McGill University
Montreal, QC, Canada

Jerome D. Waye, MD
Director of Endoscopic Education
Mt Sinai Hospital
New York, NY, USA

Edris Wedi, MD
Department of Medicine III—Gastroenterology, Interventional Endoscopy
St. Bernward Academic Teaching Hospital
Hildesheim, Germany
Foreword

Throughout the years, it is evident that the best practitioners of endoscopy are not necessarily the best teachers and, parenthetically, the best teachers may not be the best practitioners of this discipline. Teaching is a skill that can be learned, but in the field of gastrointestinal endoscopy, most teachers acquire their ability to impart their knowledge to others by watching their teachers over years of schooling and incorporating the best parts of several educators into their personal style of educational communication.

In the field of endoscopy, all who become teachers have an enormous responsibility, not only to share their knowledge completely and selflessly with the student, but to watch over the patient at all times to ensure their safety and that the teaching aspect of the procedure does not infringe upon the ability to provide the best endoscopic examination possible. The information that is given must become a part of the student’s approach to the entire endoscopic experience including such aspects as informed consent, the preparation of the patient, the discussion of the procedure both before and after the instrumentation takes place and, of course, the careful and repetitive steps needed for the effortless and practiced performance of the examination itself. The endoscopic approach, learned by the side of the instructor, will be used for the rest of the professional lives of the students and are skills that will be further enhanced as the student becomes more familiar with the myriad procedures that are possible and seemingly impossible but that can be built upon by a solid foundation to cope with emerging technology.

It is not possible in this book to present all the facets of learning all aspects of endoscopy, but Dr. Cohen has made it a priority to present all facets of teaching the procedural aspect of gastrointestinal endoscopy, and has done it well.

Prior to assigning chapters to write, Dr. Cohen identified three attributes that had to be realized in each of the authors whom he invited to participate in this unique teaching endeavor. Each author had to be a superb endoscopic technician who also is currently engaged in formally teaching endoscopy to students as well as other endoscopists, and has demonstrated skill in writing and putting their thoughts on paper in an organized fashion. Having written a multiauthored book on narrow band imaging (Comprehensive Atlas of High Resolution Endoscopy and Narrowband Imaging), Dr. Cohen used his networking ability to find the right endoscopy colleagues for each chapter of the present book. In spite of its title “Successful Gastrointestinal Endoscopy”, this book is not just a teaching manual, but is actually a “how I do it” textbook developed from the standpoint of an endoscopic expert who also teaches. The accumulated mass of knowledge from these teachers of endoscopy are spread evenly throughout each chapter, which showcases their techniques developed over years of teaching fellows while standing by their side, giving verbal instructions, sharing tips, discussing the approach to problems, and being mentors in their training.

In addition to the wisdom imparted through the transfer of knowledge via the written page, there is an extensive video section contained on the enclosed DVD, which demonstrates the techniques that are written about. The videos complement the book and walk the student through the process to increase the understanding of the training set.

The World Endoscopy Organization (WEO) is pleased to endorse this book since its goals are clear and well defined: that to perform endoscopy one needs to have proper training. This training is best accomplished under the watchful tutelage of a person who is dedicated, expert, and facile not only in the performance of the procedure but also in the ability to transfer skills to the next generation of endoscopists. The WEO promotes excellence in endoscopy throughout all parts of the world and focuses on bringing endoscopy to underserved areas where endoscopy is underutilized.

This book will serve as a valuable resource for those who are in training, those accomplished endoscopists who want to increase their knowledge of techniques, and all the endoscopists who train others in this rapidly growing and exciting field.

Jerome D. Waye, MD
President, World Endoscopy Organization
Preface

The field of gastrointestinal endoscopy today faces a frenetic intersection of change. Many new technologies are emerging to expand the diagnostic and therapeutic capabilities of endoscopists. Innovative investigators are also devising new therapeutic applications of existing equipment. A heightened focus on optimizing quality performance in our procedures necessarily has required a renewed attention on how to ensure that the individuals asked to practice endoscopy are fully trained to achieve the highest possible outcomes. Competing diagnostic and therapeutic modalities threaten to make some of the standard procedures obsolete and challenge the individuals who spend most of their time performing them to adapt. For many individuals caught in this crossroads mid-career, finding the time and opportunities to retool can be very challenging, irrespective of the personal economic concerns involved in making the commitment to upgrade skills in response to the changing conditions.

At the same time, practitioners from specialties previously not involved with endoscopy have been drawn by various forces to learn endoscopy. Resources for training in major GI endoscopy procedures and in specific advanced techniques are limited. For many procedures, the trainers and trainees are hindered by the lack of sufficient case volume in the given technique to be taught. The availability of expert mentors to teach required skills can be another major impediment to training opportunities.

The increased demand for high-quality training and the supply limitations due to the costs and time required for this labor intensive process have driven the development of novel teaching tools which aim to increase the efficiency of training, and where possible increase the potential for independent learning. The purpose of this book is to provide a comprehensive examination of the principles and specific components of training in endoscopy. The first section explores the important concepts of training and describes the range of tools that have been utilized in this regard. The next two sections provide in-depth discussion of the major current endoscopic procedure categories as well as most specialized diagnostic and therapeutic techniques. For each of these chapters, the authors have considered prerequisite skills for training, skill sets to be mastered, step-by-step components that must be taught and assessed by trainers, typical learning curve for trainees, and objective measures of competency which trainers must strive to attain. For some of these topics, there has been scant literature to define these parameters. Accordingly, the authors have drawn from their extensive experience in training and performing these procedures to provide their recommendations where data is lacking. The material presented will identify important questions about training that warrant future investigation. The accompanying edited and annotated video clips on the DVD highlight key teaching points for instructors to emphasize.

The chapters examine the specific skills sets and procedure-related tasks that must be mastered in learning a particular technique. They contain specific descriptions of accessories required, standard training methods for the particular procedure, and optimal utilization of novel learning modalities such as simulators. Quality measures and objective parameters for competency for each procedure are considered when available, along with available tools for assessing competency once training has been completed. The accompanying DVD included with the text contains over 130 annotated video clips of both actual procedures and ex vivo animal model simulations to illustrate proper techniques in a step-by-step fashion and demonstrates common mistakes and improper techniques.

The purpose of this book is to help endoscopists realize optimal levels of skill as they perform the procedures they aspire to learn. Though the focus of this textbook/DVD remains on how to learn and how to teach each technique, because doing so requires delineation and illustration of all skill sets to master, the textbook chapters and particularly the video unavoidably serve as learning tools for the proper performance of endoscopic techniques in addition to an authoritative primer on training.

Jonathan Cohen, MD
Acknowledgements

I wish to thank the many authors who contributed text and video for this volume for their great efforts and willingness in many cases to take on topics that have not been fully explored before. Beyond that, I want to extend my gratitude to the individuals who have been my teachers in endoscopy. Despite all advances in tools and methods of training detailed in this book, the importance of having wonderful mentors remains paramount to successful training in endoscopy. I have been particularly fortunate in this regard. Besides imparting their wisdom and expertise, they have given me a strong appreciation for the importance of training and of ongoing learning in this ever changing and exciting field. Thanks also to Cori, Juliette, and Ben for their tremendous understanding, encouragement, and support.

This book is dedicated to JJC for his lifelong inspiration and for giving me the idea for this project. AELCTIS!