

# Fundoplication Surgery



Ralph W. Aye • John G. Hunter  
Editors

# Fundoplication Surgery

A Clinical Guide to Optimizing Results

 Springer

*Editors*

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# Preface

If you are exploring this book, you are likely aware that gastroesophageal reflux is the most common disorder of the upper intestinal track, and that its impact on our health care system is tremendous, resulting in billions of dollars of medical expenses and lost productivity annually. You may also be vaguely aware, or personally so through the care of your own patients, that antireflux surgery may have a dramatic positive impact on an individual's quality of life, but that, curiously, it has not been fully embraced by the medical community or the public. In fact, medical literature and public online forums are replete with reports of postoperative resumption of antisecretory medication, failed repairs, and debilitating side effects.

As one who has practiced in this arena of surgical endeavor for over 25 years, I find it to be one of the most enjoyable aspects of my practice, because of the substantial and long-lasting improvement in quality of life that I see in the vast majority of patients, and I know that that experience is shared by a great many esophageal surgeons. At the same time, we must acknowledge that the surgical community has sometimes failed in its mission of treating a chronic debilitating benign disease, by limiting our responsibility to the performance of a simple one-size-fits-all operation, with little thought to the subtleties of patient selection, preoperative evaluation, long-term postoperative support and management, and the considerable complexities of the anatomy and physiology of the antireflux barrier and its implications for the creation of a successful repair which will last a patient's lifetime.

This book is an effort to address some of those deficiencies. It is intended for surgeons already performing antireflux procedures who want to elevate their skills to the expert level or for those in their training who want to go beyond the basics. The topics have been selected to address the entire spectrum of the management of gastroesophageal reflux disease, as it is our belief that surgeons who aspire to excellence in this field should understand the complete disease process and its comprehensive management. In addition, the authors have been asked to go beyond the usual textbook descriptions, to share their secrets, their "pearls," and their wisdom from their years of experience in achieving consistently good results and in building the trust of their medical colleagues.

Drs. Schneider and Louie's chapter on the anatomy and physiology of the antireflux barrier is a strongly referenced and in-depth articulation of the current state of our understanding, going far beyond typical references to lower esophageal sphincter pressure and the intra-abdominal esophagus to include detailed anatomy of the complex structure of the LES; the oft-overlooked gastroesophageal valve; the phrenoesophageal membrane, e.g., the substrate holding it all together; and the previously unrecognized substantial importance of the diaphragmatic hiatus as a component of the lower esophageal high pressure zone. An understanding of what it is that we are attempting to reconstruct with our operations is foundational to achieving consistently good outcomes in the face of tremendous anatomic variation.

The centrality of Dr. Hunter and company's chapter on patient selection is hard to overemphasize. A well-performed operation on the wrong patient is a recipe for disaster. The surgeon should understand the complex nuances of an insightful history, the subtexts behind the results of diagnostic studies, and how to apply it all in a specific patient who reflects the substantial variation of individuality. The chapter is masterful and comprehensive, pointing out that there is no shortcut to the diligence and skill required to choose patients appropriately. It should be read more than once to fully appreciate the depth of information packed into its well-written phrasing.

A number of technique-oriented chapters follow. While the interpretation of the concept of short esophagus and its management remains diverse, there is no doubt that cephalad or axial tension on a fundoplication is one of its greatest enemies. Dr. DeMeester et al. have given a state-of-the-art description of its definition and identification, as well as a very well-formed management strategy with which any surgeon performing all but the most straightforward cases should be fully versed, as there is no study which can fully predict in advance whether a shortened esophagus will be encountered. The chapter by Dr. Oelschlager/Wright et al. on difficult diaphragmatic closure expertly addresses a challenging issue which surgeons continue to grapple with. Their discussion of this issue and the options for management come from one of the most well-informed centers in the world on this issue.

Dr. Soper has given a masterful chapter on the proper performance of a Nissen fundoplication. Not only are the specific stepwise details of the operation well articulated and clear, but he has also shared his personal "pitfalls and pearls," gained from the performance of thousands of repairs over many years. While there are many variations in the performance of a Nissen fundoplication, this chapter should remain a reference for all surgeons engaged in antireflux surgery.

Next follow several alternatives to the Nissen wrap. While the Nissen procedure has been to a large extent the international gold standard, it is an aggressive 360° wrap which is typically associated with difficulty belching or vomiting, and this often results in flatulence and to some extent bloating. And despite its aggressiveness, recurrences occur in the best of hands, at a rate higher than we would like to admit. It is because of these issues that several alternatives to the Nissen have been included. My long and fruitful association with Dr. Hill led to an in-depth understanding of his operation and the anatomic components underlying it, and an analysis of failure patterns from our randomized trial comparing the Hill and the Nissen

resulted in the development of the Nissen–Hill hybrid repair, in an effort to gain from the strengths of the two individual operations.

Other parts of the world have enjoyed greater success with the Toupet repair than is generally reported in North America, where it is more often used as a compromise procedure in a patient with poor motility. However, Dr. Gotley has explored the pros and cons of both the Nissen and the Toupet in depth and now favors the Toupet as his operation of choice. His detailed description of the procedure is excellent, he has shared his wisdom from a vast experience, and he has honestly reported his results as well as culling a number of comparative studies from the literature. I thoroughly enjoyed his chapter.

While in North America our emphasis as a hallmark of the success of an operation has tended toward control of reflux and the results of postoperative pH measurements, Dr. Watson addresses the vital importance of considering the whole patient, including a recognition of the detrimental impact of fundoplication side effects on patient satisfaction. His pioneering operation, including the results of a number of his own randomized trials, together with a careful reporting of outcomes, is impressive, particularly with regard to global measures of patient satisfaction. In addition, the details of his operation are sufficiently different from standard Nissen technique that one's tool chest for the management of difficult complex situations is expanded.

Dr. Swanstrom's chapter on postoperative management and follow-up is more than I had hoped for with regard to his generous sharing of wisdom, perspective, and specific practical advice in managing the issues that frequently arise after the incisions are closed. This is a critical component of patient management which should not be relegated to the referring physician. In addition, he rightly challenges us all to build reproducible standardized metrics into our practice of a field which is inherently subjective and individualistic. My own experience fully endorses the approach he describes.

Dr. Spechler has been sufficiently kind and direct in his contribution to this book in giving surgeons the perspective of a highly knowledgeable gastroenterologist, helping us to see gastroesophageal reflux disease through the eyes of his colleagues. His central message is clear: it's not just about performing an operation. The majority of patients with reflux do quite well with medical management, and unless the surgeon understands the proper role of antireflux surgery within the broad spectrum of the disease, the elective nature of surgery as an alternative to long-term medical management, and the critical components of patient selection, as well as owning the consequences of the operation, he or she will find it difficult to gain credibility with referring physicians.

Finally, Dr. Jackson helps us to understand the disease process from a pediatric perspective. The importance of this is severalfold. Some of us care for pediatric patients in our practices; this chapter will be invaluable. Secondly it is not uncommon for our adult patients with reflux to describe onset in childhood or teen years. But most excitingly, pediatric surgeons may be ahead of the rest of us in their understanding of the critical role of the phrenoesophageal membrane in maintaining the antireflux barrier. Given the patterns of recurrences we see in our adult patients, regardless of the initial size of the hernia, we may need to pay more attention to this component of our repair. This is alluded to in Dr. Gotley's chapter as well.

As this book has been written with the serious surgeon in mind, “pearls” in most chapters have been emphasized in italics to help identify the author’s critical points. Some chapters did not lend themselves to this approach, and for others, like those of Dr. Swanstrom or Dr. Spechler, the entire chapter is a pearl and it was hard to limit emphasis to a few points.

Those of us who have seen firsthand the remarkably beneficial impact of antireflux surgery on well-selected patients know how important it is to get the message across to our medical colleagues and the public. This book is an effort to help you to do so. The authors hope that the information will be of direct value to you in your practice and will result in a benefit to many patients.

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